

## EXERCISE 1A

- Write the consecutive numbers that come after.
  - 886 887 888 889 890 891 892 893
  - 2505 2506 2507 2508 2509 2510 2511 2512
  - 6783 6784 6785 6786 6787 6788 6789 6790
- Write in the expanded form.
  - $2317 = 2000 + 300 + 10 + 7$
  - $3247 = 3000 + 200 + 40 + 7$
  - $4050 = 4000 + 0 + 50 + 0$
  - $7208 = 7000 + 200 + 0 + 8$
- Write  $>$ ,  $<$  or  $=$ .
  - $4580 > 2367$
  - $3739 < 3793$
  - $3265 < 4621$
  - $7366 < 7636$
- Write in ascending order.
  - 2268, 3567, 4674, 6040, 7147
  - 6643, 7530, 7759, 7975, 8321
  - 2002, 2020, 2200, 3001, 3010
- Fill in.
  - 7030
  - 8622
  - eight thousand three hundred and twenty-eight
  - four thousand two hundred and three
  - VII, X, XI
  - 11, 9, 7
  - 4000, 60, 500
  - 900, 3000, 6
  - 200, 4, 50
- Make the greatest and the smallest numbers using all the digits.

Digits	a. 1, 6, 8	b. 2, 0, 7	c. 3, 4, 2, 5	d. 8, 0, 3, 2
Smallest number	168	207	2345	2038
Greatest number	861	720	5432	8320

- Do these sums.

$$\begin{array}{r} \phantom{0}^1 \phantom{0}^1 \phantom{0}^1 \\ 3894 \\ + 3538 \\ \hline 7432 \end{array}$$

$$\begin{array}{r} \phantom{0}^1 \phantom{0}^1 \\ 4683 \\ + 1870 \\ \hline 6553 \end{array}$$

$$\begin{array}{r} \phantom{0}^7 \phantom{0}^{12} \\ 5782 \\ - 2143 \\ \hline 3639 \end{array}$$

$$\begin{array}{r} \phantom{0}^6 \phantom{0}^{10} \phantom{0}^{11} \\ 8702 \\ - 7654 \\ \hline 1047 \end{array}$$

- $$\begin{array}{r} \phantom{0}^2 \phantom{0}^1 \\ 451 \\ + 368 \\ + 82 \\ \hline 901 \end{array}$$
  - $$\begin{array}{r} \phantom{0}^1 \phantom{0}^1 \\ 328 \\ + 435 \\ + 42 \\ + 53 \\ \hline 858 \end{array}$$
  - $$\begin{array}{r} \phantom{0}^1 \phantom{0}^2 \\ 1207 \\ + 334 \\ + 169 \\ \hline 1710 \end{array}$$
  - $$\begin{array}{r} \phantom{0}^1 \phantom{0}^1 \\ 3065 \\ + 2650 \\ + 341 \\ \hline 6056 \end{array}$$

- $$\begin{array}{r} \phantom{0}^0 \phantom{0}^{13} \\ 683 \\ + 702 \\ \hline 1385 \end{array}$$
  - $$\begin{array}{r} \phantom{0}^1 \phantom{0}^{13} \\ 2385 \\ - 515 \\ \hline 870 \end{array}$$

Ans. 870

$$\begin{array}{r} \phantom{0}^6 \phantom{0}^{13} \\ 743 \\ - 168 \\ \hline 575 \end{array}$$

$$\begin{array}{r} \phantom{0}^6 \phantom{0}^{15} \\ 578 \\ - 417 \\ \hline 158 \end{array}$$

Ans. 158

c. 
$$\begin{array}{r} \phantom{0}1\phantom{0}1 \\ 589 \\ +82 \\ \hline 671 \end{array}$$
 
$$\begin{array}{r} 671 \\ -671 \\ \hline 000 \end{array}$$
 Ans. 0

d. 
$$\begin{array}{r} \phantom{0}1\phantom{0}11 \\ 3786 \\ +1324 \\ \hline 5110 \end{array}$$
 
$$\begin{array}{r} \phantom{0}4\phantom{0}10 \\ \cancel{5}1\cancel{1}0 \\ -3723 \\ \hline 1387 \end{array}$$
 Ans. 1387

10. a. 
$$\begin{array}{r} \phantom{0}2 \\ 25 \\ \times 40 \\ \hline 1000 \end{array}$$
 b. 
$$\begin{array}{r} 51 \\ \times 20 \\ \hline 1020 \end{array}$$
 c. 
$$\begin{array}{r} \phantom{0}2\phantom{0}1 \\ 375 \\ \times 30 \\ \hline 11250 \end{array}$$
 d. 
$$\begin{array}{r} \phantom{0}4 \\ 308 \\ \times 60 \\ \hline 18480 \end{array}$$
 e. 
$$\begin{array}{r} 22 \\ \times 300 \\ \hline 6600 \end{array}$$

11. a. 
$$\begin{array}{r} 32 \\ \times 13 \\ \hline 96 \\ 320 \\ \hline 416 \end{array}$$
 b. 
$$\begin{array}{r} 64 \\ \times 52 \\ \hline 128 \\ 3200 \\ \hline 3328 \end{array}$$
 c. 
$$\begin{array}{r} 248 \\ \times 26 \\ \hline 1488 \\ 4960 \\ \hline 6448 \end{array}$$
 d. 
$$\begin{array}{r} 108 \\ \times 37 \\ \hline 756 \\ 3240 \\ \hline 3996 \end{array}$$
 e. 
$$\begin{array}{r} 532 \\ \times 42 \\ \hline 1064 \\ 21280 \\ \hline 22344 \end{array}$$

12. Divide and check the answer.

a. 
$$\begin{array}{r} 18 \\ 236 \\ -2 \\ \hline 16 \\ -16 \\ \hline 00 \end{array}$$

Dividend = 36  
 $2 \times 18 + 0 = 36$

b. 
$$\begin{array}{r} 15 \\ 346 \\ -3 \\ \hline 16 \\ -15 \\ \hline 1 \end{array}$$

Dividend = 46  
 $3 \times 15 + 1 = 46$

c. 
$$\begin{array}{r} 7 \\ 857 \\ -56 \\ \hline 1 \end{array}$$

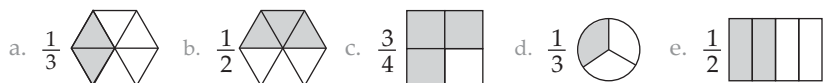
Dividend = 57  
 $8 \times 7 + 1 = 57$

d. 
$$\begin{array}{r} 5 \\ 1265 \\ -60 \\ \hline 5 \end{array}$$

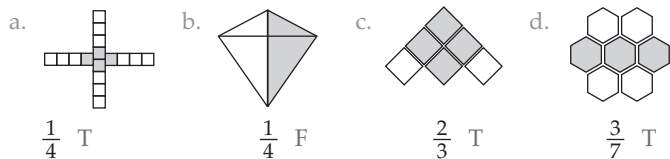
Dividend = 65  
 $12 \times 5 + 5 = 65$

### EXERCISE 1B

1. Colour to show the fractions.



2. Write 'T' if the fraction is shaded correctly. If not, write 'F'.



3. Write 'T' for true and 'F' for false.

a. F b. T c. F d. T e. T f. F g. T h. T

4. Write the time.



5. Fill in.

- a. Re 0.25   b. 1550 p   c. Rs 32   d. Rs 87.75   e. 180   f. 48   g. 28   h. 90   i. 300  
 j. 336   k. 400   l. 6   m. 3   n. 8000   o. 6000   p. 4   q. 2   r. 3000

6. Find.

a. 
$$\begin{array}{r} \text{₹ } 22.50 \\ + \text{₹ } 221.00 \\ \hline \text{₹ } 243.50 \end{array}$$

b. 
$$\begin{array}{r} \text{₹ } 22.45 \\ + \text{₹ } 239.65 \\ + \text{₹ } 1237.75 \\ + \text{₹ } 1499.85 \end{array}$$

c. 
$$\begin{array}{r} \text{₹ } 79.75 \\ - \text{₹ } 27.50 \\ \hline \text{₹ } 52.25 \end{array}$$

d. 
$$\begin{array}{r} \text{₹ } 8528.00 \\ - \text{₹ } 1260.50 \\ \hline \text{₹ } 7260.50 \end{array}$$

e. 
$$\begin{array}{r} \text{₹ } 35.45 \\ \times 7 \\ \hline \text{₹ } 248.15 \end{array}$$

f. 
$$\begin{array}{r} \text{Rs } 68275 \\ \text{P } 4143 \\ \times 6 \\ \hline 409650 \end{array}$$

g. 
$$\begin{array}{r} \text{₹ } 9.05 \\ 8 \overline{) \text{₹ } 72.40} \\ \underline{- 72} \\ 004 \\ \underline{- 0} \\ 40 \\ \underline{40} \\ 00 \end{array}$$
  
 Ans. ₹ 9.05

h. 
$$\begin{array}{r} \text{Rs } 123 \\ 3 \overline{) 369} \\ \underline{- 3} \\ 06 \\ \underline{- 6} \\ 09 \\ \underline{- 9} \\ 0 \end{array} \quad \begin{array}{r} \text{p } 30 \\ \downarrow \downarrow \\ 10 \\ \downarrow \downarrow \\ 3 \\ \underline{3} \\ 00 \\ \underline{- 0} \\ 0 \end{array}$$
  
 Ans. 123 rupees 10 paise

7. Total weight of the vegetables = 2 kg + 1 kg 500 g + 250 g  
 = 3 kg 750 g

$$\begin{array}{r} \text{kg } 2000 \\ \text{g } + 1500 \\ + 0250 \\ \hline 3750 \end{array}$$

8. Distance travelled by auto-rickshaw = 45 km 600 m - 43 km 500 m  
 = 2 km 100 m

$$\begin{array}{r} \text{km } 45600 \\ \text{m } - 43500 \\ \hline 2100 \end{array}$$

9. A shop sold milk everyday = 28 l 150 ml  
 Milk sold in 6 days = 28 l 150 ml × 6  
 = 168 l 900 ml

$$\begin{array}{r} \text{l } 28150 \\ \text{ml } 43 \\ \times 6 \\ \hline 168900 \end{array}$$

10. Cloth to make 8 trousers of equal size = 24 m 40 cm  
 Cloth used to make each =  $24\text{ m } 40\text{ cm} \div 8$   
 = 3 m 5 cm

$$\begin{array}{r} \text{m} \quad \text{cm} \\ 3 \quad \quad \quad \\ \hline 8 \overline{) 24} \quad 40 \\ \underline{- 24} \quad \quad \\ 00 \quad \quad \quad \\ \hline \end{array}$$

$$\begin{array}{r} \quad \quad \quad \text{cm} \\ \quad \quad \quad \quad \quad \quad \downarrow \downarrow \\ \quad \quad \quad \quad \quad \quad 5 \\ \hline 8 \overline{) 40} \\ \underline{- 40} \\ 00 \\ \hline \end{array}$$

## Chapter 2 Roman Numerals

### EXERCISE 2A

1. Write using Hindu-Arabic numerals.

a.

III	V	IV	IX	X	XI	VII	XII	XIII	XX
3	5	4	9	10	11	7	12	13	20

b.

XIV	XVII	XVI	XIX	XXI	XL	XLIII	XLV	XLIX	L
14	17	16	19	21	40	43	45	49	50

2. Write using Roman numerals.

a.

2	4	5	6	8	9	10	15	18	20
II	IV	V	VI	VIII	IX	X	XV	XVIII	XX

b.

21	25	28	24	29	35	39	43	46	49
XXI	XXV	XXVIII	XXIV	XXIX	XXXV	XXXIX	XLIII	XLVI	XLIX

3. Fill in > or <.

- a. VII > VI      b. IX < XI      c. XVI > XIV  
 d. XXX < CC      e. XXX < XL      f. XXXVI < XLVI  
 g. IX < XL      h. L < C      i. XLV > XXV

4. Fill in > or < or =.

- a. XXII > 12      b. 4 + 2 < XLII      c. 30 - 20 = X  
 d. XXXII = 32      e. XL < 50 + 10      f. 3 × 8 < XLII  
 g. XXXVII < 38      h. C > 50      i. 20 + 6 > XXIV

5. Write in ascending order.

- a. IX    XIV    XV    XXIV    XXVI    XLI  
 b. X    XX    XXX    XL    L    C  
 c. XI    XIX    XXI    XXII    XXVII    XXX

6. Write in descending order.

- a. 

L	XL	XXX	XXIX	XIX	XVIII
---	----	-----	------	-----	-------
- b. 

XLVI	XLI	XXXIX	XXVIII	XIX	XVI
------	-----	-------	--------	-----	-----
- c. 

XXIX	XIX	XIII	XII	XI	IX
------	-----	------	-----	----	----

7. Write the answer in Roman numerals.

- a. XXXV   b. VIII   c. XXIV   d. XXIV   e. XXX   f. XXV   g. XXV  
h. XXVIII   i. LXIV

### Chapter 3 Large Numbers

#### EXERCISE 3A

1. Write in the short form.

- a. 55,555   b. 6,42,315   c. 45,36,789   d. 3,56,42,785   e. 8,76,50,328

2. Write in the expanded form.

- a.  $2000000 + 500000 + 70000 + 9000 + 800 + 70 + 2$   
b.  $700000 + 80000 + 4000 + 200 + 90 + 5$   
c.  $60000 + 7000 + 400 + 50 + 2$   
d.  $3000000 + 200000 + 0 + 0 + 0 + 0 + 0$   
e.  $40000000 + 6000000 + 300000 + 40000 + 8000 + 500 + 10 + 4$

3. Write in figures.

- a. 

TC	C	TL	L	TTh	Th	H	T	O
				6	0	5	2	4
- b. 

TC	C	TL	L	TTh	Th	H	T	O
		3		2	2	4	7	4
- c. 

TC	C	TL	L	TTh	Th	H	T	O
		5	4	1	6	4	7	5
- d. 

TC	C	TL	L	TTh	Th	H	T	O
8		0	0	0	0	0	0	0
- e. 

TC	C	TL	L	TTh	Th	H	T	O
	4	8	1	3	2	1	1	8

4. Write in figures.

- a. 22,258   b. 73,400   c. 5,41,508   d. 34,53,521   e. 1,23,45,678

5. Write in words.

- a. Fifteen thousand  
b. Seventy-two thousand five hundred and two  
c. Sixty-one thousand and six  
d. Six lakh  
e. Twenty-eight lakh six thousand  
f. Sixty-five lakh thirty-seven thousand seven hundred and twenty-six  
g. Forty-four lakh twenty-two thousand eight hundred and eighty-eight.  
h. Nine lakh seventy-three thousand eight hundred and thirty-six.  
i. Eight crore  
j. Five crore forty-eight lakh ninety-seven thousand seven hundred and twenty.

6. Rewrite the number with commas separating the periods.

- a. 5,43,268      b. 86,36,236      c. 18,732      d. 7,81,000      e. 2,22,222  
f. 1,26,40,385      g. 87,65,432      h. 4,60,20,821      i. 24,58,341      j. 30,00,247

7. Write the consecutive numbers that comes after.

- a. 63,255      63,256      63,257      63,258      63,259      63,260      63,261  
b. 51,996      51,997      51,998      51,999      52,000      52,001      52,002  
c. 1,12,732      1,12,733      1,12,734      1,12,735      1,12,736      1,12,737      1,12,738  
d. 19,20,897      19,20,898      19,20,899      19,20,900      19,20,901      19,20,902      19,20,903

8. Write the predecessor (the number just before).

- a. 41,999      42,000      b. 53,199      53,200      c. 4,82,001      4,82,002  
d. 26,07,999      26,08,000      e. 37,99,999      38,00,000      f. 1,37,21,167      1,37,21,168

9. Write the successor (the number just after).

- a. 14,099      14,100      b. 45,437      45,438      c. 70,899      70,900  
d. 1,62,522      1,62,523      e. 5,88,999      5,89,000      f. 3,99,999      4,00,000

10. Write the numbers just before and after.

- a. 43199      43200      43201      b. 24374      24375      24376      c. 52999      53000      53001  
d. 48270      48271      48272      e. 54999      55000      55001      f. 326741      326742      326743  
g. 699999      700000      700001      h. 2232424      2232425      2232426      i. 4399998      4399999      4400000

11. Write the number between.

- a. 9 999      10000      10 001      b. 47 999      48000      48 001  
c. 99 998      99999      1 00 000      d. 3 42 300      342301      3 42 302  
e. 5 27 342      527343      5 27 344      f. 21 43 131      2143132      21 43 133

12. Continue the pattern.

- a. 21,402      21,502      21,602      21,702      21,802      21,902  
b. 87,000      86,975      86,950      86,925      86,900      86,875  
c. 7,22,123      7,23,223      7,24,323      7,25,423      7,26,523      7,27,623  
d. 21,80,245      21,79,245      21,78,245      21,77,245      21,76,245      21,75,245

### EXERCISE 3B

1. Write the place value of the digits.

- a. 26,724    4    4    2    20    7    700    6    6000    2    20000  
b. 42,761    4    40000    2    2000    7    700    6    60    1    1  
c. 7,59,062    2    2    6    60    0    0    9    9000    7    700000  
d. 2,57,960    2    200000    6    60    5    50000    9    900    7    7000  
e. 48,39,060    4    4000000    8    800000    3    30000    9    9000    6    60  
f. 4,00,58,257    4    40000000    5    50000    8    8000    2    200    5    50

2. Fill in.

- a. thousands, ten thousands    b. lakhs, ten thousands    c. ten thousands, lakh  
d. 2, 20000    e. 4, 400000    f. 70000, 3000, 200

3. Write >, < or =.

- a. 56 999 < 99 699    b. 1 16 521 > 18 888    c. 60 845 > 58 643  
d. 1 12 34 480 > 87 68 521    e. 62 50 003 = 62 50 003    f. 76 82 500 > 80 000  
g. 6 90 00 484 < 6 90 20 484    h. 5 23 450 > 55 600    i. 40 000 < 44 444  
j. 5 28 242 > 58 242    k. 30 30 300 > 78 787    l. 38 020 = 38 020

4. Write the smallest number first and then write the largest number.

- a. 5657, 1244210    b. 22600, 2234600    c. 85070602, 87070702  
d. 5637, 22324226    e. 52731, 5321052    f. 908060, 40708090

5. Write in ascending order.

- a. 44896, 56789, 63683, 348792, 445682  
b. 680900, 690900, 7464523, 7559270, 8359258  
c. 49470, 3283704, 3863929, 23447509, 26056479  
d. 8888, 89000, 600900, 8900000, 9000600  
e. 3640466, 5967750, 7065537, 22335590, 82532394

6. Write in descending order.

- a. 7483920, 4756659, 2938940, 29380, 9290  
b. 9200000, 37000, 28000, 26000, 8000  
c. 4347500, 3035395, 2730350, 923270, 50500  
d. 65056606, 3640460, 26306, 6200, 666  
e. 7755962, 4528693, 849473, 53952, 798

7. Make the greatest and the smallest numbers using all the given digits.

- |    | Greatest number | Smallest number |
|----|-----------------|-----------------|
| a. | 97531           | 13579           |
| b. | 86420           | 20468           |
| c. | 987532          | 235789          |
| d. | 9776520         | 2056779         |
| e. | 85432100        | 10023458        |

**EXERCISE 4A**

Add.

1. a. 
$$\begin{array}{r} \text{TTh Th H T O} \\ 21453 \\ + 26544 \\ \hline 47997 \end{array}$$
 b. 
$$\begin{array}{r} \text{TTh Th H T O} \\ 85604 \\ + 4385 \\ \hline 89989 \end{array}$$
 c. 
$$\begin{array}{r} \text{L TTh Th H T O} \\ 458769 \\ + 540210 \\ \hline 998979 \end{array}$$
 d. 
$$\begin{array}{r} \text{L TTh Th H T O} \\ 61954 \\ + 428045 \\ \hline 489999 \end{array}$$

2. a. 
$$\begin{array}{r} 13264 \\ + 12120 \\ + 33302 \\ \hline 58686 \end{array}$$
 b. 
$$\begin{array}{r} 64217 \\ + 11031 \\ + 3641 \\ \hline 78889 \end{array}$$
 c. 
$$\begin{array}{r} 24 \\ + 252 \\ + 3302 \\ + 26411 \\ \hline 29989 \end{array}$$
 d. 
$$\begin{array}{r} 234567 \\ + 210012 \\ + 341320 \\ + 13100 \\ \hline 798999 \end{array}$$

3. a. 
$$\begin{array}{r} 12011 \\ + 53720 \\ + 10046 \\ + 24121 \\ \hline 99898 \end{array}$$
 b. 
$$\begin{array}{r} 461500 \\ + 16345 \\ + 100012 \\ + 21131 \\ \hline 598988 \end{array}$$
 c. 
$$\begin{array}{r} 432768 \\ + 46100 \\ + 21131 \\ + 300000 \\ \hline 799999 \end{array}$$
 d. 
$$\begin{array}{r} 233223 \\ + 121012 \\ + 302030 \\ + 221622 \\ \hline 877887 \end{array}$$

4. Fill in.

- a. 39698    b. 10638    c. 3925    d. 520139    e. 0    f. 0    g. 74664

5. Arrange in columns and add:

a. 
$$\begin{array}{r} 35681 \\ + 4217 \\ \hline 39898 \end{array}$$
 b. 
$$\begin{array}{r} 132 \\ + 50222 \\ + 425624 \\ \hline 475978 \end{array}$$
 c. 
$$\begin{array}{r} 122254 \\ + 315410 \\ + 30102 \\ + 2212 \\ \hline 469978 \end{array}$$

d. 
$$\begin{array}{r} 415300 \\ + 372450 \\ + 110125 \\ \hline 897875 \end{array}$$
 e. 
$$\begin{array}{r} 2310 \\ + 24402 \\ + 245 \\ \hline 26957 \end{array}$$

6. a. 
$$\begin{array}{r} 26 \\ + 150 \\ + 3425 \\ + 60275 \\ \hline 63876 \end{array}$$
 
$$\begin{array}{r} 60275 \\ + 3425 \\ + 150 \\ + 26 \\ \hline 63876 \end{array}$$
 
$$\begin{array}{r} 150 \\ + 26 \\ + 60275 \\ + 3425 \\ \hline 63876 \end{array}$$

b. 
$$\begin{array}{r} 8 \\ + 12 \\ + 230 \\ + 1475 \\ \hline 1725 \end{array}$$
 
$$\begin{array}{r} 1475 \\ + 230 \\ + 12 \\ + 8 \\ \hline 1725 \end{array}$$
 
$$\begin{array}{r} 230 \\ + 1475 \\ + 8 \\ + 12 \\ \hline 1725 \end{array}$$



### EXERCISE 4B

Add.

- a. 
$$\begin{array}{cccc} & \text{TTh} & \text{Th} & \text{H} & \text{T} & \text{O} \\ & & 1 & 1 & & \\ 6 & 2 & 1 & 5 & 4 & \\ + & 2 & 6 & 5 & 5 & 6 \\ \hline 8 & 8 & 7 & 1 & 0 & \end{array}$$

b. 
$$\begin{array}{cccc} & \text{TTh} & \text{Th} & \text{H} & \text{T} & \text{O} \\ & & 1 & 1 & 1 & \\ 6 & 3 & 6 & 8 & 3 & \\ + & 2 & 4 & 3 & 2 & 7 \\ \hline 8 & 8 & 0 & 1 & 0 & \end{array}$$

c. 
$$\begin{array}{cccc} & \text{TTh} & \text{Th} & \text{H} & \text{T} & \text{O} \\ & & 1 & 1 & 1 & 1 & \\ 3 & 7 & 9 & 3 & 5 & \\ + & 3 & 2 & 8 & 6 & 5 \\ \hline 7 & 0 & 8 & 0 & 0 & \end{array}$$
- a. 
$$\begin{array}{cccc} & \text{L} & \text{TTh} & \text{Th} & \text{H} & \text{T} & \text{O} \\ & & 1 & 1 & 1 & 1 & \\ 4 & 5 & 2 & 6 & 7 & 8 & \\ + & 3 & 2 & 8 & 2 & 5 & 4 \\ \hline 7 & 8 & 0 & 9 & 3 & 2 & \end{array}$$

b. 
$$\begin{array}{cccc} & \text{L} & \text{TTh} & \text{Th} & \text{H} & \text{T} & \text{O} \\ & & 1 & 1 & 1 & 1 & \\ 7 & 9 & 6 & 7 & 4 & 5 & \\ + & 8 & 2 & 5 & 6 & 4 & \\ \hline 8 & 7 & 9 & 3 & 0 & 9 & \end{array}$$

c. 
$$\begin{array}{cccc} & \text{L} & \text{TTh} & \text{Th} & \text{H} & \text{T} & \text{O} \\ & & 1 & 1 & 1 & 1 & \\ 2 & 8 & 4 & 7 & 3 & 9 & \\ + & 3 & 1 & 8 & 3 & 9 & 9 \\ \hline 6 & 0 & 3 & 1 & 3 & 8 & \end{array}$$
- a. 
$$\begin{array}{cccc} & & 1 & 1 & 1 & 1 \\ 7 & 1 & 3 & 5 & 2 & \\ + & 7 & 6 & 4 & 9 & \\ \hline 7 & 9 & 0 & 0 & 1 & \end{array}$$

b. 
$$\begin{array}{cccc} & & 1 & 1 & 1 & 1 \\ 2 & 6 & 9 & 8 & 6 & \\ + & 2 & 8 & 0 & 6 & 7 \\ \hline 5 & 5 & 0 & 5 & 3 & \end{array}$$

c. 
$$\begin{array}{cccc} & & 1 & 1 & 1 & 1 \\ 7 & 4 & 4 & 6 & 1 & \\ + & 4 & 3 & 6 & 5 & 9 & 5 \\ \hline 5 & 1 & 1 & 0 & 5 & 6 & \end{array}$$

d. 
$$\begin{array}{cccc} & & 1 & 1 & 1 & 1 \\ 6 & 3 & 9 & 5 & 8 & 4 & \\ + & 2 & 5 & 7 & 4 & 8 & 6 \\ \hline 8 & 9 & 7 & 0 & 7 & 0 & \end{array}$$
- a. 
$$\begin{array}{cccc} & & 1 & 1 & 1 & 1 \\ 3 & 3 & 3 & 5 & 2 & \\ + & 5 & 6 & 0 & 8 & 3 & \\ + & 5 & 6 & 3 & 7 & \\ \hline 9 & 5 & 0 & 7 & 2 & \end{array}$$

b. 
$$\begin{array}{cccc} & & 1 & 1 & 1 \\ 2 & 5 & 3 & 7 & \\ + & 8 & 0 & 2 & 0 & 8 \\ + & 7 & 9 & 1 & 6 & 0 \\ \hline 1 & 6 & 1 & 9 & 0 & 5 & \end{array}$$

c. 
$$\begin{array}{cccc} & & 2 & 1 & 1 & 3 \\ 1 & 4 & 8 & 2 & 6 & 0 & \\ + & 2 & 5 & 9 & 3 & 7 & 1 & \\ + & 3 & 6 & 0 & 4 & 8 & 2 & \\ + & 1 & 7 & 1 & 5 & 9 & 3 & \\ \hline 9 & 3 & 9 & 7 & 0 & 6 & \end{array}$$

d. 
$$\begin{array}{cccc} & & 1 & 2 & 1 & 1 & 1 \\ & & & 5 & 6 & 7 & \\ + & & & 8 & 9 & 0 & 1 & \\ + & & & 2 & 3 & 4 & 5 & 6 & \\ + & & & 7 & 8 & 9 & 0 & 1 & 2 & \\ \hline 8 & 2 & 1 & 9 & 3 & 6 & \end{array}$$
- Add.

a. 
$$\begin{array}{cccc} & & 1 & 1 & 1 \\ 2 & 6 & 7 & 4 & 3 & \\ + & 5 & 3 & 1 & 8 & \\ \hline 3 & 2 & 0 & 6 & 1 & \end{array}$$

b. 
$$\begin{array}{cccc} & & 1 & 2 & 1 \\ 5 & 3 & 8 & 5 & \\ + & 1 & 7 & 8 & 5 & \\ + & 5 & 4 & 2 & 6 & 7 & 3 & \\ \hline 5 & 4 & 9 & 8 & 4 & 3 & \end{array}$$

e. 
$$\begin{array}{cccc} & & 1 & 1 & 1 & 2 & 1 \\ 2 & 3 & 1 & 4 & 5 & 8 & \\ + & 4 & 6 & 2 & 4 & 8 & 0 & \\ + & 1 & 4 & 3 & 9 & 7 & & \\ + & 3 & 5 & 0 & 2 & & & \\ \hline 7 & 1 & 1 & 8 & 3 & 7 & \end{array}$$

d. 
$$\begin{array}{cccc} & & 1 & 2 & 1 & 1 \\ 6 & 3 & 8 & 0 & 0 & 0 & \\ + & 1 & 5 & 4 & 0 & 5 & 6 & \\ + & 8 & 9 & 1 & 6 & 4 & & \\ \hline 8 & 8 & 1 & 2 & 2 & 0 & \end{array}$$

e. 
$$\begin{array}{cccc} & & 1 & 1 & 1 \\ 3 & 5 & 1 & 7 & \\ + & 6 & 4 & 5 & 0 & 1 & \\ + & 1 & 6 & 7 & 4 & 9 & & \\ \hline 8 & 4 & 7 & 6 & 7 & \end{array}$$
- Fill in the missing digits.

a. 
$$\begin{array}{cccc} 8 & (8) & 5 & (6) & 0 \\ + & 4 & 2 & 7 & (5) \\ \hline (9) & 2 & (8) & 3 & 5 & \end{array}$$

b. 
$$\begin{array}{cccc} 5 & 7 & (2) & 3 & 4 \\ + & (2) & 2 & 5 & 8 & (3) \\ \hline 7 & (9) & 8 & (1) & 7 & \end{array}$$

c. 
$$\begin{array}{cccc} 6 & (0) & 3 & (4) & 2 & (2) \\ + & (3) & 5 & (0) & 8 & 5 & 4 \\ + & 2 & 4 & 7 & 2 & (1) & 6 \\ \hline 1 & 2 & 0 & 1 & 4 & 9 & 2 & \end{array}$$

d. 
$$\begin{array}{cccc} 2 & 5 & (0) & 4 & (1) & 6 \\ + & 1 & (3) & 9 & (2) & 5 & (3) \\ + & (2) & 3 & 1 & 6 & 8 & 2 & \\ \hline 6 & 2 & 1 & 3 & 5 & 1 & \end{array}$$

### EXERCISE 4C

1. No. of girls = 45,730

No. of boys = 48,285

Total no. of children = 45,730 + 48,285  
= 94,015 children

$$\begin{array}{r} \phantom{0} \phantom{0} \phantom{0} \phantom{0} \\ \phantom{0} \phantom{0} \phantom{0} \phantom{0} \\ \phantom{0} \phantom{0} \phantom{0} \phantom{0} \\ 45730 \\ + 48285 \\ \hline 94015 \end{array}$$

2. Cost of a bus = ₹ 5,56,750

Cost of a truck = ₹ 5,56,750 + ₹ 2,80,500  
= ₹ 8,37,250

$$\begin{array}{r} \phantom{0} \phantom{0} \phantom{0} \phantom{0} \phantom{0} \\ \phantom{0} \phantom{0} \phantom{0} \phantom{0} \phantom{0} \\ \phantom{0} \phantom{0} \phantom{0} \phantom{0} \phantom{0} \\ 556750 \\ + 280500 \\ \hline 837250 \end{array}$$

3. Cakes sold in all three years = 1850480 + 1035620 + 928550  
= 38,14,650

$$\begin{array}{r} \phantom{0} \phantom{0} \phantom{0} \phantom{0} \phantom{0} \phantom{0} \\ \phantom{0} \phantom{0} \phantom{0} \phantom{0} \phantom{0} \phantom{0} \\ \phantom{0} \phantom{0} \phantom{0} \phantom{0} \phantom{0} \phantom{0} \\ 1850480 \\ + 1035620 \\ + 928550 \\ \hline 3814650 \end{array}$$

4. The number is 47,526 + 68,195

= 1,15,721

$$\begin{array}{r} \phantom{0} \phantom{0} \phantom{0} \phantom{0} \phantom{0} \\ \phantom{0} \phantom{0} \phantom{0} \phantom{0} \phantom{0} \\ \phantom{0} \phantom{0} \phantom{0} \phantom{0} \phantom{0} \\ 47526 \\ + 68195 \\ \hline 115721 \end{array}$$

5. Sum of 135606 and 257810 = 3,93,416

Number = 393416 + 65280  
= 4,58,696

$$\begin{array}{r} \phantom{0} \phantom{0} \phantom{0} \phantom{0} \phantom{0} \phantom{0} \\ \phantom{0} \phantom{0} \phantom{0} \phantom{0} \phantom{0} \phantom{0} \\ \phantom{0} \phantom{0} \phantom{0} \phantom{0} \phantom{0} \phantom{0} \\ 135606 \\ + 257810 \\ \hline 393416 \end{array}$$

$$\begin{array}{r} \phantom{0} \phantom{0} \phantom{0} \phantom{0} \phantom{0} \phantom{0} \\ \phantom{0} \phantom{0} \phantom{0} \phantom{0} \phantom{0} \phantom{0} \\ \phantom{0} \phantom{0} \phantom{0} \phantom{0} \phantom{0} \phantom{0} \\ 393416 \\ + 65280 \\ \hline 458696 \end{array}$$

6. Total population = 50128 + 132150 + 62575

= 2,44,853

$$\begin{array}{r} \phantom{0} \phantom{0} \phantom{0} \phantom{0} \phantom{0} \phantom{0} \\ \phantom{0} \phantom{0} \phantom{0} \phantom{0} \phantom{0} \phantom{0} \\ \phantom{0} \phantom{0} \phantom{0} \phantom{0} \phantom{0} \phantom{0} \\ 50128 \\ + 132150 \\ + 62575 \\ \hline 244853 \end{array}$$

7. Total distance covered by car in three years = (15769 + 12520 + 16485) km

= 44,774 km

$$\begin{array}{r} \phantom{0} \phantom{0} \phantom{0} \phantom{0} \phantom{0} \phantom{0} \\ \phantom{0} \phantom{0} \phantom{0} \phantom{0} \phantom{0} \phantom{0} \\ \phantom{0} \phantom{0} \phantom{0} \phantom{0} \phantom{0} \phantom{0} \\ 15769 \\ + 12520 \\ + 16485 \\ \hline 44774 \end{array}$$

8. Ajay saved in X Bank = ₹ 4,10,825

saved in Y Bank = ₹ 3,45,250

saved in Z Bank = ₹ 5,74,338

Total savings = ₹ (4,10,825 + 3,45,250 + 5,74,338)  
= ₹ 13,30,413

$$\begin{array}{r} \phantom{0} \phantom{0} \phantom{0} \phantom{0} \phantom{0} \phantom{0} \\ \phantom{0} \phantom{0} \phantom{0} \phantom{0} \phantom{0} \phantom{0} \\ \phantom{0} \phantom{0} \phantom{0} \phantom{0} \phantom{0} \phantom{0} \\ 410825 \\ + 345250 \\ + 574338 \\ \hline 1330413 \end{array}$$

**EXERCISE 5A**

Subtract.

1. a. 
$$\begin{array}{r} \text{TTh Th H T O} \\ 37281 \\ - 2131 \\ \hline 35150 \end{array}$$

b. 
$$\begin{array}{r} \text{TTh Th H T O} \\ 76435 \\ - 73021 \\ \hline 3414 \end{array}$$

c. 
$$\begin{array}{r} \text{TTh Th H T O} \\ 86736 \\ - 53431 \\ \hline 33305 \end{array}$$

2. a. 
$$\begin{array}{r} \text{L TTh Th H T O} \\ 580473 \\ - 40251 \\ \hline 540222 \end{array}$$

b. 
$$\begin{array}{r} \text{L TTh Th H T O} \\ 369258 \\ - 335234 \\ \hline 34024 \end{array}$$

c. 
$$\begin{array}{r} \text{L TTh Th H T O} \\ 468924 \\ - 234413 \\ \hline 234511 \end{array}$$

3. a. 
$$\begin{array}{r} 29798 \\ - 6365 \\ \hline 23433 \end{array}$$

b. 
$$\begin{array}{r} 97584 \\ - 95243 \\ \hline 2341 \end{array}$$

c. 
$$\begin{array}{r} 61458 \\ - 20143 \\ \hline 41315 \end{array}$$

d. 
$$\begin{array}{r} 326845 \\ - 301413 \\ \hline 25432 \end{array}$$

e. 
$$\begin{array}{r} 607453 \\ - 601210 \\ \hline 6243 \end{array}$$

f. 
$$\begin{array}{r} 976596 \\ - 623173 \\ \hline 353423 \end{array}$$

4. a. 
$$\begin{array}{r} 574958 \\ - 41536 \\ \hline 533422 \end{array}$$

b. 
$$\begin{array}{r} 382615 \\ - 350300 \\ \hline 32315 \end{array}$$

5. a. 
$$\begin{array}{r} 259895 \\ - 49271 \\ \hline 210624 \end{array}$$

b. 
$$\begin{array}{r} 778789 \\ - 74537 \\ \hline 704252 \end{array}$$

c. 
$$\begin{array}{r} 52475 \\ - 15763 \\ \hline 36712 \end{array}$$

Ans. 2,10,624

Ans. 7,04,252

Ans. 36,712

**EXERCISE 5B**

Subtract.

1. a. 
$$\begin{array}{r} \text{TTh Th H T O} \\ 76\cancel{4}2\cancel{8} \\ - 344367 \\ \hline 42058 \end{array}$$

b. 
$$\begin{array}{r} \text{TTh Th H T O} \\ 8\cancel{3}9\cancel{7}2 \\ - 46897 \\ \hline 37075 \end{array}$$

c. 
$$\begin{array}{r} \text{TTh Th H T O} \\ 2\cancel{8}\cancel{4}8 \\ - 24693 \\ \hline 455 \end{array}$$

2. a. 
$$\begin{array}{r} \text{L TTh Th H T O} \\ 472\cancel{0}35 \\ - 280244 \\ \hline 191791 \end{array}$$

b. 
$$\begin{array}{r} \text{L TTh Th H T O} \\ 7\cancel{1}\cancel{0}\cancel{0}3\cancel{3} \\ - 313414 \\ \hline 396639 \end{array}$$

c. 
$$\begin{array}{r} \text{L TTh Th H T O} \\ 2\cancel{0}\cancel{1}\cancel{4}\cancel{0}7 \\ - 166087 \\ \hline 35320 \end{array}$$

3. a. 
$$\begin{array}{r} \overset{11}{8} \overset{15}{\cancel{2}} \overset{14}{\cancel{2}} \\ 39264 \\ -25689 \\ \hline 13575 \end{array}$$

b. 
$$\begin{array}{r} \overset{10}{7} \overset{9}{\cancel{0}} \overset{14}{\cancel{0}} \overset{11}{\cancel{0}} \\ 81081 \\ -5285 \\ \hline 75766 \end{array}$$

c. 
$$\begin{array}{r} \overset{11}{2} \overset{9}{\cancel{2}} \overset{10}{\cancel{0}} \overset{10}{\cancel{0}} \\ 32000 \\ -15057 \\ \hline 16943 \end{array}$$

d. 
$$\begin{array}{r} \overset{9}{4} \overset{9}{\cancel{0}} \overset{9}{\cancel{0}} \overset{10}{\cancel{0}} \\ 50000 \\ -21234 \\ \hline 28766 \end{array}$$

e. 
$$\begin{array}{r} \overset{14}{3} \overset{13}{\cancel{2}} \overset{17}{5} \overset{12}{\cancel{2}} \\ 42882 \\ -287596 \\ \hline 166086 \end{array}$$

f. 
$$\begin{array}{r} \overset{9}{3} \overset{10}{\cancel{0}} \overset{6}{\cancel{0}} \overset{9}{\cancel{0}} \overset{11}{\cancel{0}} \\ 400701 \\ -115604 \\ \hline 285097 \end{array}$$

g. 
$$\begin{array}{r} \overset{12}{7} \overset{14}{\cancel{2}} \overset{9}{\cancel{0}} \overset{11}{\cancel{0}} \overset{10}{\cancel{0}} \\ 838020 \\ -769396 \\ \hline 658624 \end{array}$$

h. 
$$\begin{array}{r} \overset{5}{3} \overset{12}{6} \overset{9}{\cancel{2}} \overset{10}{\cancel{0}} \\ 362700 \\ -8674 \\ \hline 354026 \end{array}$$

4. a. 
$$\begin{array}{r} \overset{11}{8} \overset{10}{\cancel{2}} \overset{13}{\cancel{2}} \overset{15}{\cancel{0}} \\ 92148 \\ -36296 \\ \hline 55849 \end{array}$$

checking  
$$\begin{array}{r} 1111 \\ 36296 \\ +55849 \\ \hline 92145 \end{array}$$

b. 
$$\begin{array}{r} \overset{9}{1} \overset{10}{\cancel{0}} \overset{13}{\cancel{0}} \overset{10}{\cancel{0}} \\ 20140 \\ -765 \\ \hline 19375 \end{array}$$

checking  
$$\begin{array}{r} 1111 \\ 765 \\ +19375 \\ \hline 20140 \end{array}$$

c. 
$$\begin{array}{r} \overset{13}{2} \overset{14}{\cancel{2}} \overset{16}{\cancel{0}} \\ 22486 \\ -22799 \\ \hline 657 \end{array}$$

checking  
$$\begin{array}{r} 111 \\ 22799 \\ +657 \\ \hline 23456 \end{array}$$

d. 
$$\begin{array}{r} \overset{10}{5} \overset{13}{\cancel{0}} \overset{13}{\cancel{0}} \overset{9}{\cancel{0}} \overset{16}{\cancel{0}} \\ 60006 \\ -247708 \\ \hline 366698 \end{array}$$

checking  
$$\begin{array}{r} 11111 \\ 247708 \\ +366698 \\ \hline 614406 \end{array}$$

e. 
$$\begin{array}{r} \overset{13}{4} \overset{11}{\cancel{2}} \overset{14}{\cancel{0}} \overset{12}{\cancel{0}} \\ 54280 \\ -53830 \\ \hline 488690 \end{array}$$

checking  
$$\begin{array}{r} 1111 \\ 53830 \\ +488690 \\ \hline 542520 \end{array}$$

f. 
$$\begin{array}{r} \overset{9}{5} \overset{9}{\cancel{0}} \overset{9}{\cancel{0}} \overset{9}{\cancel{0}} \overset{10}{\cancel{0}} \\ 60000 \\ -58639 \\ \hline 541361 \end{array}$$

checking  
$$\begin{array}{r} 11111 \\ 58639 \\ +541361 \\ \hline 600000 \end{array}$$

5. a. 
$$\begin{array}{r} \overset{7}{8} \overset{16}{\cancel{6}} \overset{5}{\cancel{6}} \overset{15}{\cancel{7}} \\ 866875 \\ -83621 \\ \hline 782954 \end{array}$$

b. 
$$\begin{array}{r} \overset{13}{4} \overset{12}{\cancel{2}} \overset{11}{\cancel{2}} \overset{11}{\cancel{0}} \\ 84221 \\ -29467 \\ \hline 24854 \end{array}$$

Ans. 7,82,954

Ans. 24,854

6. Fill in.

a. 57695    b. 23738    c. 101235    d. 2    e. 12855    f. 22762

7. Fill in the missing digits.

a. 
$$\begin{array}{r} \boxed{6}27\boxed{9}10 \\ -36\boxed{4}6\boxed{5}4 \\ \hline 2\boxed{6}325\boxed{6} \end{array}$$

b. 
$$\begin{array}{r} 413526 \\ -1\boxed{5}2\boxed{7}5\boxed{5} \\ \hline \boxed{2}6\boxed{0}7\boxed{7}1 \end{array}$$

c. 
$$\begin{array}{r} 62987 \\ -4\boxed{5}\boxed{3}\boxed{5}\boxed{2} \\ \hline 17635 \end{array}$$

d. 
$$\begin{array}{r} 8\boxed{2}\boxed{8}\boxed{7}\boxed{9} \\ -45352 \\ \hline 37527 \end{array}$$

### EXERCISE 5C

1. Roses grow in Rohan's garden = 23,958

Roses grow in Sohan's garden = 23,689

Difference = 23,958 - 23,689

= 269 roses

$$\begin{array}{r} 23958 \\ -23689 \\ \hline 269 \end{array}$$

So, Rohan's garden 269 more roses grow.

2. Babita get votes = 2,30,405  
 Renu get votes = 2,30,405 - 75,926  
 = 1,54,479 votes

$$\begin{array}{r} 2\ 3\ 0\ 4\ 0\ 5 \\ -\ 7\ 5\ 9\ 2\ 6 \\ \hline 1\ 5\ 4\ 4\ 7\ 9 \end{array}$$

3. If the population of a town increases by 15,793 then population = 6,00,000  
 So, the population of town at present = 6,00,000 - 15,793  
 = 5,84,207

$$\begin{array}{r} 6\ 0\ 0\ 0\ 0\ 0 \\ -\ 1\ 5\ 7\ 9\ 3 \\ \hline 5\ 8\ 4\ 2\ 0\ 7 \end{array}$$

4. The number to be added = 60,220 - 46,351  
 = 13,869

$$\begin{array}{r} 6\ 0\ 2\ 2\ 0 \\ -\ 4\ 6\ 3\ 5\ 1 \\ \hline 1\ 3\ 8\ 6\ 9 \end{array}$$

5. Sum of two numbers = 5,00,000  
 one number = 45,678  
 other number = 5,00,000 - 45,678  
 = 4,54,322

$$\begin{array}{r} 5\ 0\ 0\ 0\ 0\ 0 \\ -\ 4\ 5\ 6\ 7\ 8 \\ \hline 4\ 5\ 4\ 3\ 2\ 2 \end{array}$$

6. The number to be subtracted = 3,02,005 - 1,25,040  
 = 1,76,965

$$\begin{array}{r} 3\ 0\ 2\ 0\ 0\ 5 \\ -\ 1\ 2\ 5\ 0\ 4\ 0 \\ \hline 1\ 7\ 6\ 9\ 6\ 5 \end{array}$$

7. 1,13,052 is greater than 90,486 = 1,13,052 - 90,486  
 = 22,566

$$\begin{array}{r} 1\ 1\ 3\ 0\ 5\ 2 \\ -\ 9\ 0\ 4\ 8\ 6 \\ \hline 2\ 2\ 5\ 6\ 6 \end{array}$$

8. The number = 95,267 + 12,340  
 = 1,07,607

$$\begin{array}{r} 9\ 5\ 2\ 6\ 7 \\ +\ 1\ 2\ 3\ 4\ 0 \\ \hline 1\ 0\ 7\ 6\ 0\ 7 \end{array}$$

### EXERCISE 5D

Find.

1. a. 
$$\begin{array}{r} 1 \\ 2\ 5 \\ +\ 4\ 6 \\ \hline 7\ 1 \end{array}$$
    
$$\begin{array}{r} 6\ 11 \\ 7\ 1 \\ -\ 4\ 5 \\ \hline 2\ 6 \end{array}$$
    b. 
$$\begin{array}{r} 1 \\ 3\ 8\ 3 \\ +\ 7\ 4 \\ \hline 4\ 5\ 7 \end{array}$$
    
$$\begin{array}{r} 1\ 14\ 17 \\ 4\ 8\ 7 \\ -\ 1\ 8\ 9 \\ \hline 2\ 6\ 8 \end{array}$$
    c. 
$$\begin{array}{r} 1\ 1\ 1 \\ 4\ 6\ 9\ 8 \\ +\ 8\ 3\ 3\ 2 \\ \hline 1\ 3\ 0\ 3\ 0 \end{array}$$
    
$$\begin{array}{r} 0\ 12\ 9\ 12 \\ 1\ 3\ 0\ 3\ 0 \\ -\ 5\ 4\ 8\ 7 \\ \hline 7\ 5\ 4\ 3 \end{array}$$

Ans. 26

Ans. 268

Ans. 7,543

2. a. 
$$\begin{array}{r} 1 \\ 7\ 0 \\ +\ 7\ 1 \\ \hline 1\ 4\ 1 \end{array}$$
    
$$\begin{array}{r} 0\ 8\ 11 \\ 1\ 4\ 1 \\ -\ 5\ 7 \\ \hline 8\ 4 \end{array}$$
    b. 
$$\begin{array}{r} 1 \\ 5\ 8\ 5 \\ +\ 5\ 2 \\ \hline 6\ 3\ 7 \end{array}$$
    
$$\begin{array}{r} 5\ 13 \\ 6\ 3\ 7 \\ -\ 2\ 7\ 0 \\ \hline 3\ 6\ 7 \end{array}$$
    c. 
$$\begin{array}{r} 1\ 0\ 1\ 0\ 4 \\ +\ 2\ 2\ 4\ 5 \\ \hline 1\ 2\ 3\ 4\ 9 \end{array}$$
    
$$\begin{array}{r} 0\ 11\ 13 \\ 1\ 2\ 3\ 4\ 9 \\ -\ 7\ 4\ 2\ 9 \\ \hline 4\ 9\ 2\ 0 \end{array}$$

Ans. 84

Ans. 367

Ans. 4,920

3. a. 
$$\begin{array}{r} \overset{2}{3} \overset{9}{0} \overset{10}{0} \\ - 268 \\ \hline 32 \end{array}$$
      
$$\begin{array}{r} \overset{2}{3} \overset{12}{2} \\ - 15 \\ \hline 17 \end{array}$$
      b. 
$$\begin{array}{r} \overset{9}{10} \overset{13}{8} \overset{9}{10} \\ \overset{0}{10} \overset{8}{8} \overset{10}{10} \\ - 3645 \\ \hline 6755 \end{array}$$
      
$$\begin{array}{r} \overset{6}{6} \overset{15}{5} \\ - 363 \\ \hline 6392 \end{array}$$
      c. 
$$\begin{array}{r} \overset{11}{0} \overset{9}{8} \overset{10}{6} \overset{9}{10} \\ \overset{12}{0} \overset{7}{0} \overset{10}{0} \\ - 36347 \\ \hline 84353 \end{array}$$
      
$$\begin{array}{r} \overset{3}{8} \overset{13}{4} \overset{13}{3} \\ - 415 \\ \hline 83938 \end{array}$$

Ans. 17

Ans. 6,392

Ans. 83,938

4. a. 
$$\begin{array}{r} \overset{1}{1} \overset{1}{1} \overset{1}{8} \\ + 3615 \\ \hline 3733 \end{array}$$
      
$$\begin{array}{r} \overset{2}{3} \overset{13}{3} \\ - 2407 \\ \hline 1326 \end{array}$$
      b. 
$$\begin{array}{r} \overset{1}{5} \overset{1}{6} \overset{1}{0} \overset{1}{4} \\ + 7400 \\ \hline 13004 \end{array}$$
      
$$\begin{array}{r} \overset{2}{13} \overset{9}{10} \overset{14}{14} \\ \overset{13}{0} \overset{10}{0} \overset{14}{4} \\ - 10518 \\ \hline 2486 \end{array}$$
      c. 
$$\begin{array}{r} \overset{1}{1} \overset{1}{1} \\ + 10720 \\ \hline 12100 \end{array}$$
      
$$\begin{array}{r} \overset{1}{12} \overset{10}{0} \overset{10}{0} \\ - 11250 \\ \hline 850 \end{array}$$

Ans. 1,326

Ans. 2,486

Ans. 850

5. a. 
$$\begin{array}{r} \overset{1}{5} \overset{1}{3} \overset{1}{0} \overset{1}{3} \\ + 1380 \\ \hline 1883 \end{array}$$
      
$$\begin{array}{r} \overset{1}{4} \overset{1}{5} \\ + 799 \\ \hline 844 \end{array}$$
      
$$\begin{array}{r} \overset{7}{18} \overset{13}{8} \overset{13}{3} \\ - 844 \\ \hline 1039 \end{array}$$
      b. 
$$\begin{array}{r} \overset{1}{2} \overset{1}{3} \overset{1}{7} \overset{1}{4} \\ + 122318 \\ \hline 124692 \end{array}$$
      
$$\begin{array}{r} \overset{1}{1} \overset{1}{7} \overset{1}{5} \overset{1}{2} \\ + 90920 \\ \hline 92672 \end{array}$$
      
$$\begin{array}{r} \overset{0}{12} \overset{12}{2} \overset{12}{4} \overset{12}{6} \overset{12}{9} \overset{12}{2} \\ - 92672 \\ \hline 32020 \end{array}$$

Ans. 1,039

Ans. 32,020

6. a. 
$$\begin{array}{r} \overset{1}{4} \overset{1}{2} \overset{1}{5} \overset{1}{6} \\ + 78100 \\ \hline 82356 \end{array}$$
      
$$\begin{array}{r} \overset{1}{1} \overset{1}{5} \overset{1}{3} \overset{1}{6} \overset{1}{2} \\ + 280 \\ \hline 15642 \end{array}$$
      
$$\begin{array}{r} \overset{7}{8} \overset{13}{2} \overset{13}{3} \overset{13}{5} \overset{13}{6} \\ - 15642 \\ \hline 66714 \end{array}$$

Ans. 66,714

b. 
$$\begin{array}{r} \overset{11}{1} \overset{11}{0} \overset{11}{0} \overset{11}{0} \\ + 207256 \\ \hline 217256 \end{array}$$
      
$$\begin{array}{r} \overset{1}{7} \overset{1}{6} \overset{1}{3} \overset{1}{6} \overset{1}{5} \\ + 121804 \\ \hline 198169 \end{array}$$
      
$$\begin{array}{r} \overset{10}{2} \overset{14}{1} \overset{14}{7} \overset{14}{2} \overset{14}{3} \overset{14}{6} \\ - 198169 \\ \hline 19087 \end{array}$$

Ans. 19,087

### EXERCISE 5E

1. Sum of numbers =  $92746 + 78218$   
 $= 170964$

$$\begin{array}{r} 92746 \\ + 78218 \\ \hline 170964 \end{array}$$

Difference of numbers =  $92746 - 78218$   
 $= 14528$

$$\begin{array}{r} 92746 \\ - 78218 \\ \hline 14528 \end{array}$$

Difference of sum and the difference  
of the numbers =  $170964 - 14528$   
 $= 156436$

$$\begin{array}{r} 170964 \\ - 14528 \\ \hline 156436 \end{array}$$

So, the sum of 92746 and 78218 is 156436 greater than their difference.

2. Sum of two numbers = 210365  
 one number = 102858  
 other number = 210365 - 102858  
 = 107507  
 Difference of the numbers = 107507 - 102858  
 = 4649

$$\begin{array}{r} 210365 \\ -102858 \\ \hline 107507 \end{array}$$

$$\begin{array}{r} 107507 \\ -102858 \\ \hline 4649 \end{array}$$

3. Difference between two numbers = 14937  
 Greater number = 59002  
 other number = 59002 - 14937  
 = 44065  
 Sum of the numbers = 59002 + 44065  
 = 103067

$$\begin{array}{r} 59002 \\ -14937 \\ \hline 44065 \end{array}$$

$$\begin{array}{r} 59002 \\ +44065 \\ \hline 103067 \end{array}$$

4. Sum of numbers = 35465 + 72255  
 = 107720  
 Difference of 123671 and sum of numbers  
 = 123671 - 107720  
 = 15951

$$\begin{array}{r} 35465 \\ +72255 \\ \hline 107720 \end{array}$$

$$\begin{array}{r} 123671 \\ -107720 \\ \hline 15951 \end{array}$$

So, 1,23,671 is 15,951 greater than the sum of 35,465 and 72,255.

5. Machine cost = ₹ 9,05,000  
 Raj has money = ₹ 6,43,578  
 He need money = ₹ (9,05,000 - 6,43,578)  
 = ₹ 2,61,422  
 He should borrow money = ₹ 2,61,422 + ₹ 25,000  
 = ₹ 2,86,422

$$\begin{array}{r} 905000 \\ -643578 \\ \hline 261422 \end{array}$$

$$\begin{array}{r} 261422 \\ +25000 \\ \hline 286422 \end{array}$$

So, Raj should borrow ₹ 2,86,422.

6. Mr. Sharma spend money = ₹ 4,75,600  
 His wife spend money = ₹ 1,80,120  
 His son spend money = ₹ 1,65,600  
 Total spend money by his son and his wife = ₹ (1,65,600 + 1,80,120)  
 = ₹ 3,45,720  
 Difference of Mr. Sharma and his wife  
 and his son expenditure = ₹ (4,75,600 - 3,45,720)  
 = ₹ 1,29,880

$$\begin{array}{r} 165600 \\ +180120 \\ \hline 345720 \end{array}$$

$$\begin{array}{r} 475600 \\ -345720 \\ \hline 129880 \end{array}$$

So, Mr Sharma spend ₹ 1,29,880 more than the total of the money spend by his wife and son.

## PRACTICE SHEET-1

1. Write using Roman numerals.

4	6	9	11	27	29	30	33	40	48
IV	VI	IX	XI	XXVII	XXIX	XXX	XXXIII	XL	XLVIII

2. Fill in  $>$ ,  $<$  or  $=$ .

a. IX  $<$  XI    b. CCC  $<$  M    c.  $10 \times 3$   $>$  XIII    d.  $32 \div 8$   $<$  XXXVII

3. Write in figures.

a. 56,472    b. 2,60,507    c. 18,03,064    d. 3,48,009    e. 4,00,05,221

4. Write the predecessor.

- a. 23,782    23,783
- b. 49,999    50,000
- c. 65,799    65,800
- d. 99,999    1,00,000
- e. 3,48,999    3,49,000

5. Write the place value of the digits.

- a. 46,907    4 40000    6 6000    9 900
- b. 62,743    3 3    7 700    6 60000
- c. 6,27,430    3 30    7 7000    6 600000
- d. 9,87,245    9 900000    8 80000    4 40
- e. 18,29,300    8 800000    1 1000000    2 20000

6. Do these sums.

- a. 
$$\begin{array}{r} \overset{1}{1} \overset{1}{3} \overset{1}{5} \overset{1}{6} \overset{1}{2} \overset{1}{1} \\ + 729864 \\ \hline 865485 \end{array}$$
- b. 
$$\begin{array}{r} \overset{1}{8} \overset{1}{6} \overset{1}{3} \overset{1}{1} \overset{1}{4} \overset{1}{0} \\ + 58627 \\ \hline 921767 \end{array}$$
- c. 
$$\begin{array}{r} \overset{9}{2} \overset{16}{0} \overset{11}{7} \overset{12}{2} \overset{15}{8} \\ - 248378 \\ \hline 58857 \end{array}$$
- d. 
$$\begin{array}{r} \overset{11}{7} \overset{11}{2} \overset{9}{2} \overset{9}{0} \overset{10}{0} \overset{10}{0} \\ - 468214 \\ \hline 253786 \end{array}$$
- e. 
$$\begin{array}{r} \overset{1}{5} \overset{1}{7} \overset{1}{3} \overset{1}{4} \overset{1}{1} \\ + 25263 \\ + 4395 \\ + 52864 \\ \hline 139863 \end{array}$$
- b. 
$$\begin{array}{r} \overset{1}{1} \overset{1}{0} \overset{1}{8} \overset{1}{2} \overset{1}{3} \\ + 425758 \\ \hline 436581 \end{array}$$
- c. 
$$\begin{array}{r} \overset{1}{2} \overset{1}{7} \overset{1}{6} \overset{1}{8} \overset{1}{7} \\ + 243764 \\ \hline 271451 \end{array}$$
- d. 
$$\begin{array}{r} \overset{1}{\cancel{7}} \overset{1}{\cancel{2}} \overset{1}{\cancel{2}} \overset{1}{\cancel{0}} \overset{1}{\cancel{0}} \overset{1}{\cancel{0}} \\ - 271451 \\ \hline 165130 \end{array}$$

Ans. 1,65,130

Ans. 1,39,863



7. Fill in the missing digits.

a.	$\begin{array}{r} 4 \boxed{6} 8 \boxed{0} 3 \\ + 1 2 \boxed{3} 4 \boxed{9} \\ \hline 5 9 1 5 2 \end{array}$	b.	$\begin{array}{r} 5 9 \boxed{6} 3 \boxed{7} 4 \\ + 2 \boxed{8} 4 6 3 \boxed{5} \\ \hline 8 8 1 \boxed{0} 0 9 \end{array}$	c.	$\begin{array}{r} 4 \boxed{7} \boxed{8} 2 5 \\ - 2 8 6 \boxed{1} \boxed{3} \\ \hline 1 9 2 1 2 \end{array}$	d.	$\begin{array}{r} 5 \boxed{1} 4 6 8 \boxed{2} \\ - 1 4 8 \boxed{7} 5 5 \\ \hline 3 6 \boxed{5} 9 \boxed{2} 7 \end{array}$
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**Chapter 6 Multiplication**

**EXERCISE 6A**

Use multiplication to fill in.

- |                         |                       |
|-------------------------|-----------------------|
| 1. a. $7 \times 5 = 35$ | b. $5 \times 6 = 30$  |
| c. $8 \times 7 = 56$    | d. $6 \times 8 = 48$  |
| e. $3 \times 12 = 36$   | f. $2 \times 15 = 30$ |

Fill in.

- |  |
|--|
| 2. a.1   b.1   c.0   d.0   |
| 3. a.8   b.8   c.9   d.5   e.4   f.18   g.8   h.9   i.19                                 |
| 4. a. 17 tens = 170      e. 18 hundreds = 1800      i. 5 thousands = 5000                |
| b. 362 tens = 3620      f. 465 hundreds = 46500      j. 87 thousands = 87000             |
| c. 1347 tens = 13470      g. 1723 hundreds = 172300      k. 520 thousands = 520000       |
| d. 11685 tens = 116850      h. 80310 hundreds = 8031000      i. 2538 thousands = 2538000 |

5. a. $12 \times 10 = 12 \text{ tens}$ $= 120$	b. $14 \times 50 = \boxed{14 \times 5} \times 10$ $= 70 \times 10$ $= 70 \text{ tens}$ $= 700$
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c. $15 \times 70 = \boxed{15 \times 7} \times 10$ $= 105 \times 10$ $= 105 \text{ tens}$ $= 1050$	d. $11 \times 60 = \boxed{11 \times 6} \times 10$ $= 66 \times 10$ $= 66 \text{ tens}$ $= 660$
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e. $19 \times 40 = \boxed{19 \times 4} \times 10$ $= 76 \times 10$ $= 76 \text{ tens}$ $= 760$	f. $24 \times 20 = \boxed{24 \times 2} \times 10$ $= 48 \times 10$ $= 48 \text{ tens}$ $= 480$
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g. $143 \times 30 = \boxed{143 \times 3} \times 10$ $= 429 \times 10$ $= 429 \text{ tens}$ $= 4290$	h. $230 \times 40 = \boxed{230 \times 4} \times 10$ $= 920 \times 10$ $= 920 \text{ tens}$ $= 9200$
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$$\begin{aligned}
 6. \quad a. \quad 11 \times 600 &= \boxed{11 \times 6} \times 100 \\
 &= 66 \times 100 \\
 &= 66 \text{ hundreds} \\
 &= 6600
 \end{aligned}$$

$$\begin{aligned}
 b. \quad 12 \times 300 &= \boxed{12 \times 3} \times 100 \\
 &= 36 \times 100 \\
 &= 36 \text{ hundreds} \\
 &= 3600
 \end{aligned}$$

$$\begin{aligned}
 c. \quad 13 \times 400 &= \boxed{13 \times 4} \times 100 \\
 &= 52 \times 100 \\
 &= 52 \text{ hundreds} \\
 &= 5200
 \end{aligned}$$

$$\begin{aligned}
 d. \quad 14 \times 500 &= \boxed{14 \times 5} \times 100 \\
 &= 70 \times 100 \\
 &= 70 \text{ hundreds} \\
 &= 7000
 \end{aligned}$$

$$\begin{aligned}
 e. \quad 120 \times 900 &= \boxed{120 \times 9} \times 100 \\
 &= 1080 \times 100 \\
 &= 1080 \text{ hundreds} \\
 &= 108000
 \end{aligned}$$

$$\begin{aligned}
 f. \quad 150 \times 800 &= \boxed{150 \times 8} \times 100 \\
 &= 1200 \times 100 \\
 &= 1200 \text{ hundreds} \\
 &= 120000
 \end{aligned}$$

$$\begin{aligned}
 7. \quad a. \quad 12 \times 3000 &= \boxed{12 \times 3} \times 1000 \\
 &= 36 \times 1000 \\
 &= 36 \text{ thousands} \\
 &= 36000
 \end{aligned}$$

$$\begin{aligned}
 b. \quad 14 \times 4000 &= \boxed{14 \times 4} \times 1000 \\
 &= 56 \times 1000 \\
 &= 56 \text{ thousands} \\
 &= 56000
 \end{aligned}$$

$$\begin{aligned}
 c. \quad 16 \times 6000 &= \boxed{16 \times 6} \times 1000 \\
 &= 96 \times 1000 \\
 &= 96 \text{ thousands} \\
 &= 96000
 \end{aligned}$$

$$\begin{aligned}
 d. \quad 17 \times 5000 &= \boxed{17 \times 5} \times 1000 \\
 &= 85 \times 1000 \\
 &= 85 \text{ thousands} \\
 &= 85000
 \end{aligned}$$

$$\begin{aligned}
 e. \quad 30 \times 6000 &= \boxed{30 \times 6} \times 1000 \\
 &= 180 \times 1000 \\
 &= 180 \text{ thousands} \\
 &= 180000
 \end{aligned}$$

$$\begin{aligned}
 f. \quad 15 \times 9000 &= \boxed{15 \times 9} \times 1000 \\
 &= 135 \times 1000 \\
 &= 135 \text{ thousands} \\
 &= 135000
 \end{aligned}$$

$$\begin{aligned}
 g. \quad 130 \times 7000 &= \boxed{130 \times 7} \times 1000 \\
 &= 910 \times 1000 \\
 &= 910 \text{ thousands} \\
 &= 910000
 \end{aligned}$$

$$\begin{aligned}
 h. \quad 105 \times 8000 &= \boxed{105 \times 8} \times 1000 \\
 &= 840 \times 1000 \\
 &= 840 \text{ thousands} \\
 &= 840000
 \end{aligned}$$

8. Do these.

$$\begin{aligned}
 a. \quad 98 \times 10 \\
 &= 98 \text{ tens} \\
 &= 980
 \end{aligned}$$

$$\begin{aligned}
 b. \quad 432 \times 100 \\
 &= 432 \text{ hundreds} \\
 &= 43200
 \end{aligned}$$

$$\begin{aligned}
 c. \quad 143 \times 1000 \\
 &= 143 \text{ thousands} \\
 &= 143000
 \end{aligned}$$

### **EXERCISE-6B**

Multiply

1. a.

$$\begin{array}{r}
 38 \\
 \times 16 \\
 \hline
 228 \\
 380 \\
 \hline
 608
 \end{array}$$

$$\begin{aligned}
 16 &= 1 \text{ tens} + 6 \text{ ones} \\
 &= 10 + 6 \\
 38 \times 16 &= 38 \times (1 \text{ tens} + 6 \text{ ones}) \\
 &= 38 \times (10 + 6) \\
 &= 38 \times 10 + 38 \times 6 \\
 &= 380 + 228 = 608
 \end{aligned}$$

b.

$$\begin{array}{r} 86 \\ \times 45 \\ \hline 430 \\ 3440 \\ \hline 3870 \end{array}$$

$$\begin{aligned} 45 &= 4 \text{ tens} + 5 \text{ ones} \\ &= 40 + 5 \\ 86 \times 45 &= 86 \times (4 \text{ tens} + 5 \text{ ones}) \\ &= 86 \times (40 + 5) \\ &= 3440 + 430 \\ &= 3870 \end{aligned}$$

c.

$$\begin{array}{r} 468 \\ \times 34 \\ \hline 1872 \\ 14040 \\ \hline 15912 \end{array}$$

$$\begin{aligned} 34 &= 3 \text{ tens} + 4 \text{ ones} \\ &= 30 + 4 \\ 468 \times 34 &= 468 \times (3 \text{ tens} + 4 \text{ ones}) \\ &= 468 \times (30 + 4) \\ &= 468 \times 30 + 468 \times 4 \\ &= 14040 + 1872 \\ &= 15912 \end{aligned}$$

d.

$$\begin{array}{r} 378 \\ \times 48 \\ \hline 3024 \\ 15120 \\ \hline 18144 \end{array}$$

$$\begin{aligned} 48 &= 4 \text{ tens} + 8 \text{ ones} \\ &= 40 + 8 \\ 378 \times 48 &= 378 \times (4 \text{ tens} + 8 \text{ ones}) \\ &= 378 \times (40 + 8) \\ &= 378 \times 40 + 378 \times 8 \\ &= 15120 + 3024 \\ &= 18144 \end{aligned}$$

e.

$$\begin{array}{r} 1579 \\ \times 15 \\ \hline 7895 \\ 15790 \\ \hline 23685 \end{array}$$

$$\begin{aligned} 15 &= 1 \text{ ten} + 5 \text{ ones} \\ &= 10 + 5 \\ 1579 \times 15 &= 1579 \times (1 \text{ ten} + 5 \text{ ones}) \\ &= 1579 \times (10 + 5) \\ &= 1579 \times 10 + 1579 \times 5 \\ &= 15790 + 7895 \\ &= 23685 \end{aligned}$$

2. a.

$$\begin{array}{r} 23 \\ \times 12 \\ \hline 46 \\ 230 \\ \hline 276 \end{array}$$

$$\begin{aligned} 12 &= 1 \text{ ten} + 2 \text{ ones} \\ &= 10 + 2 \\ 23 \times 12 &= 23 \times (1 \text{ ten} + 2 \text{ ones}) \\ &= 23 \times (10 + 2) \\ &= 23 \times 10 + 23 \times 2 \\ &= 230 + 46 \\ &= 276 \end{aligned}$$

b.

$$\begin{array}{r} 21 \\ \times 14 \\ \hline 84 \\ 210 \\ \hline 294 \end{array}$$

$$\begin{aligned} 14 &= 1 \text{ tens} + 40 \text{ ones} \\ &= 10 + 4 \\ 21 \times 14 &= 21 \times (1 \text{ tens} + 40 \text{ ones}) \\ &= 21 \times (10 + 4) \\ &= 21 \times 10 + 21 \times 4 \\ &= 210 + 84 \\ &= 294 \end{aligned}$$

c.

$$\begin{array}{r} 50 \\ \times 16 \\ \hline 300 \\ 500 \\ \hline 800 \end{array}$$

$$\begin{aligned} 16 &= 1 \text{ tens} + 60 \text{ ones} \\ &= 16 + 6 \\ 50 \times 16 &= 50 \times (1 \text{ tens} + 60 \text{ ones}) \\ &= 50 \times (10 + 6) \\ &= 50 \times 10 + 50 \times 6 \\ &= 500 + 300 \\ &= 800 \end{aligned}$$

d.

$$\begin{array}{r} 31 \\ \times 18 \\ \hline 248 \\ 310 \\ \hline 558 \end{array}$$

$$\begin{aligned} 18 &= 1 \text{ tens} + 8 \text{ ones} \\ &= 10 + 8 \\ 31 \times 18 &= 31 \times (1 \text{ tens} + 8 \text{ ones}) \\ &= 31 \times (10 + 8) \\ &= 31 \times 10 + 31 \times 8 \\ &= 310 + 248 \\ &= 558 \end{aligned}$$

e.

$$\begin{array}{r} 49 \\ \times 17 \\ \hline 343 \\ 490 \\ \hline 833 \end{array}$$

$$\begin{aligned} 17 &= 1 \text{ tens} + 7 \text{ ones} \\ &= 10 + 7 \\ 49 \times 17 &= 49 \times (1 \text{ tens} + 7 \text{ ones}) \\ &= 49 \times (10 + 7) \\ &= 49 \times 10 + 49 \times 7 \\ &= 490 + 343 \\ &= 833 \end{aligned}$$

3. a.

$$\begin{array}{r} 67 \\ \times 23 \\ \hline 201 \\ 1340 \\ \hline 1541 \end{array}$$

$$\begin{aligned} 23 &= 2 \text{ tens} + 3 \text{ ones} \\ &= 20 + 3 \\ 67 \times 23 &= 67 \times (2 \text{ tens} + 3 \text{ ones}) \\ &= 67 \times (20 + 3) \\ &= 67 \times 20 + 67 \times 3 \\ &= 1340 + 201 \\ &= 1541 \end{aligned}$$

b.

$$\begin{array}{r} 35 \\ \times 53 \\ \hline 105 \\ 1750 \\ \hline 1855 \end{array}$$

$$\begin{aligned} 53 &= 5 \text{ tens} + 3 \text{ ones} \\ &= 50 + 3 \\ 35 \times 53 &= 35 \times (5 \text{ tens} + 3 \text{ ones}) \\ &= 35 \times (50 + 3) \\ &= 1750 + 105 \\ &= 1855 \end{aligned}$$

c.

$$\begin{array}{r} 48 \\ \times 54 \\ \hline 192 \\ 2400 \\ \hline 2592 \end{array}$$

$$\begin{aligned} 54 &= 5 \text{ tens} + 4 \text{ ones} \\ &= 50 + 4 \\ 48 \times 54 &= 48 \times (5 \text{ tens} + 4 \text{ ones}) \\ &= 48 \times (50 + 4) \\ &= 48 \times 50 + 48 \times 4 \\ &= 2400 + 192 \\ &= 2592 \end{aligned}$$

d.

$$\begin{array}{r} 38 \\ \times 25 \\ \hline 190 \\ 760 \\ \hline 950 \end{array}$$

$$\begin{aligned} 25 &= 2 \text{ tens} + 5 \text{ ones} \\ &= 20 + 5 \\ 38 \times 25 &= 38 \times (2 \text{ tens} + 5 \text{ ones}) \\ &= 38 \times (20 + 5) \\ &= 38 \times 20 + 38 \times 5 \\ &= 760 + 190 \\ &= 950 \end{aligned}$$

e.

$$\begin{array}{r} 80 \\ \times 62 \\ \hline 160 \\ 4800 \\ \hline 4960 \end{array}$$

$$\begin{aligned} 62 &= 6 \text{ tens} + 2 \text{ ones} \\ &= 60 + 2 \\ 80 \times 62 &= 80 \times (6 \text{ tens} + 20 \text{ ones}) \\ &= 80 \times (60 + 2) \\ &= 80 \times 60 + 80 \times 2 \\ &= 4800 + 160 \\ &= 4960 \end{aligned}$$

4. a.

$$\begin{array}{r} 134 \\ \times 11 \\ \hline 134 \\ 1340 \\ \hline 1474 \end{array}$$

$$\begin{aligned} 11 &= 1 \text{ tens} + 1 \text{ ones} \\ &= 10 + 1 \\ 134 \times 11 &= 134 \times (1 \text{ tens} + 1 \text{ ones}) \\ &= 134 \times (10 + 1) \\ &= 134 \times 10 + 134 \times 1 \\ &= 1340 + 134 \\ &= 1474 \end{aligned}$$

b.

$$\begin{array}{r} 252 \\ \times 12 \\ \hline 504 \\ 2520 \\ \hline 3024 \end{array}$$

$$\begin{aligned} 12 &= 1 \text{ tens} + 2 \text{ ones} \\ &= 10 + 2 \\ 252 \times 12 &= 252 \times (1 \text{ tens} + 2 \text{ ones}) \\ &= 252 \times (10 + 2) \\ &= 252 \times 10 + 252 \times 2 \\ &= 2520 + 504 \\ &= 3024 \end{aligned}$$

c.

$$\begin{array}{r} 143 \\ \times 15 \\ \hline 715 \\ 1430 \\ \hline 2145 \end{array}$$

$$\begin{aligned} 15 &= 1 \text{ tens} + 5 \text{ ones} \\ &= 10 + 5 \\ 143 \times 15 &= 143 \times (1 \text{ tens} + 5 \text{ ones}) \\ &= 143 \times (10 + 5) \\ &= 143 \times 10 + 143 \times 5 \\ &= 1430 + 715 \\ &= 2145 \end{aligned}$$

d.

$$\begin{array}{r} 108 \\ \times 17 \\ \hline 756 \\ 1080 \\ \hline 1836 \end{array}$$

$$\begin{aligned} 17 &= 1 \text{ tens} + 7 \text{ ones} \\ &= 10 + 7 \\ 108 \times 17 &= 108 \times (1 \text{ tens} + 7 \text{ ones}) \\ &= 108 \times (10 + 7) \\ &= 108 \times 10 + 108 \times 7 \\ &= 1080 + 756 \\ &= 1836 \end{aligned}$$

e.

$$\begin{array}{r} 521 \\ \times 19 \\ \hline 4689 \\ 5210 \\ \hline 9899 \end{array}$$

$$\begin{aligned} 19 &= 1 \text{ tens} + 9 \text{ ones} \\ &= 10 + 9 \\ 521 \times 19 &= 521 \times (1 \text{ tens} + 9 \text{ ones}) \\ &= 521 \times (10 + 9) \\ &= 521 \times 10 + 521 \times 9 \\ &= 5210 + 4689 \\ &= 9899 \end{aligned}$$

5. a.

$$\begin{array}{r} 342 \\ \times 37 \\ \hline 2394 \\ 10260 \\ \hline 12654 \end{array}$$

$$\begin{aligned} 37 &= 3 \text{ tens} + 7 \text{ ones} \\ &= 30 + 7 \\ 342 \times 37 &= 342 \times (3 \text{ tens} + 7 \text{ ones}) \\ &= 342 \times (30 + 7) \\ &= 342 \times 30 + 342 \times 7 \\ &= 10260 + 2394 \\ &= 12654 \end{aligned}$$

b.

$$\begin{array}{r} 435 \\ \times 55 \\ \hline 2175 \\ 21750 \\ \hline 23925 \end{array}$$

$$\begin{aligned} 55 &= 5 \text{ tens} + 5 \text{ ones} \\ &= 50 + 5 \\ 435 \times 55 &= 435 \times (5 \text{ tens} + 5 \text{ ones}) \\ &= 435 \times (50 + 5) \\ &= 435 \times 50 + 435 \times 5 \\ &= 21750 + 2175 \\ &= 23925 \end{aligned}$$

c.

$$\begin{array}{r} 657 \\ \times 26 \\ \hline 3942 \\ 13140 \\ \hline 17082 \end{array}$$

$$\begin{aligned} 26 &= 2 \text{ tens} + 6 \text{ ones} \\ &= 20 + 6 \\ 657 \times 26 &= 657 \times (2 \text{ tens} + 6 \text{ ones}) \\ &= 657 \times (20 + 6) \\ &= 657 \times 20 + 657 \times 6 \\ &= 13140 + 3942 \\ &= 17082 \end{aligned}$$

d.

$$\begin{array}{r} 660 \\ \times 69 \\ \hline 5940 \\ 39600 \\ \hline 45540 \end{array}$$

$$\begin{aligned} 69 &= 6 \text{ tens} + 9 \text{ ones} \\ &= 60 + 9 \\ 660 \times 69 &= 660 \times (6 \text{ tens} + 9 \text{ ones}) \\ &= 660 \times (60 + 9) \\ &= 660 \times 60 + 660 \times 9 \\ &= 39600 + 5940 \\ &= 45540 \end{aligned}$$

e.

$$\begin{array}{r} 333 \\ \times 66 \\ \hline 1998 \\ 19980 \\ \hline 21978 \end{array}$$

 $66 = 6 \text{ tens} + 6 \text{ ones}$ 

$= 60 + 6$

$333 \times 66 = 333 \times (6 \text{ tens} + 6 \text{ ones})$

$= 333 \times (60 + 6)$

$= 333 \times 60 + 333 \times 6$

$= 19980 + 1998$

$= 21978$

6. Multiply:

a.

$$\begin{array}{r} 5761 \\ \times 13 \\ \hline 17283 \\ 57610 \\ \hline 74893 \end{array}$$

b.

$$\begin{array}{r} 3165 \\ \times 16 \\ \hline 18990 \\ 31650 \\ \hline 50640 \end{array}$$

c.

$$\begin{array}{r} 2607 \\ \times 12 \\ \hline 5214 \\ 26070 \\ \hline 31284 \end{array}$$

d.

$$\begin{array}{r} 6728 \\ \times 15 \\ \hline 33640 \\ 67280 \\ \hline 100920 \end{array}$$

7.

a.

$$\begin{array}{r} 5490 \\ \times 57 \\ \hline 38430 \\ 274500 \\ \hline 312930 \end{array}$$

b.

$$\begin{array}{r} 2546 \\ \times 94 \\ \hline 10184 \\ 229140 \\ \hline 239324 \end{array}$$

c.

$$\begin{array}{r} 6273 \\ \times 48 \\ \hline 50184 \\ 250920 \\ \hline 301104 \end{array}$$

d.

$$\begin{array}{r} 7400 \\ \times 75 \\ \hline 37000 \\ 518000 \\ \hline 555000 \end{array}$$

**EXERCISE 6C**

1. Multiply.

a.

$$\begin{array}{r} 32 \\ \times 121 \\ \hline 32 \\ 640 \\ 3200 \\ \hline 3872 \end{array}$$

b.

$$\begin{array}{r} 43 \\ \times 212 \\ \hline 86 \\ 430 \\ 8600 \\ \hline 9116 \end{array}$$

c.

$$\begin{array}{r} 54 \\ \times 132 \\ \hline 108 \\ 1620 \\ 5400 \\ \hline 7128 \end{array}$$

d.

$$\begin{array}{r} 65 \\ \times 430 \\ \hline 00 \\ 1950 \\ 26000 \\ \hline 27950 \end{array}$$

e.

$$\begin{array}{r} 80 \\ \times 279 \\ \hline 720 \\ 5600 \\ 16000 \\ \hline 22320 \end{array}$$

2.

a.

$$\begin{array}{r} 124 \\ \times 320 \\ \hline 000 \\ 2480 \\ 37200 \\ \hline 39680 \end{array}$$

b.

$$\begin{array}{r} 245 \\ \times 205 \\ \hline 1225 \\ 0000 \\ 49000 \\ \hline 50225 \end{array}$$

c.

$$\begin{array}{r} 432 \\ \times 184 \\ \hline 1728 \\ 34560 \\ 43200 \\ \hline 79488 \end{array}$$

d.

$$\begin{array}{r} 365 \\ \times 560 \\ \hline 000 \\ 21900 \\ 182500 \\ \hline 204400 \end{array}$$

e.

$$\begin{array}{r} 461 \\ \times 135 \\ \hline 2305 \\ 13830 \\ 46100 \\ \hline 62235 \end{array}$$

f.

$$\begin{array}{r} 604 \\ \times 142 \\ \hline 1208 \\ 24160 \\ 60400 \\ \hline 85768 \end{array}$$

g.

$$\begin{array}{r} 428 \\ \times 308 \\ \hline 3264 \\ 0000 \\ 128400 \\ \hline 131664 \end{array}$$

h.

$$\begin{array}{r} 253 \\ \times 342 \\ \hline 506 \\ 10120 \\ 75900 \\ \hline 86526 \end{array}$$

3.

a.

$$\begin{array}{r} 1542 \\ \times 324 \\ \hline 6168 \\ 30480 \\ 462600 \\ \hline 499248 \end{array}$$

b.

$$\begin{array}{r} 2618 \\ \times 256 \\ \hline 15708 \\ 130900 \\ 523600 \\ \hline 670208 \end{array}$$

c.

$$\begin{array}{r} 2058 \\ \times 418 \\ \hline 16464 \\ 20580 \\ 823200 \\ \hline 860244 \end{array}$$

d.

$$\begin{array}{r} 2773 \\ \times 540 \\ \hline 0000 \\ 110920 \\ 1386500 \\ \hline 1497420 \end{array}$$

4. a. 
$$\begin{array}{r} 304 \\ \times 403 \\ \hline 912 \\ 000 \\ 1216 \\ \hline 2128 \end{array}$$

b. 
$$\begin{array}{r} 2548 \\ \times 238 \\ \hline 20384 \\ 76440 \\ 509600 \\ \hline 606424 \end{array}$$

c. 
$$\begin{array}{r} 3368 \\ \times 123 \\ \hline 10104 \\ 67360 \\ 336800 \\ \hline 414264 \end{array}$$

d. 
$$\begin{array}{r} 1549 \\ \times 360 \\ \hline 0000 \\ 92940 \\ 464700 \\ \hline 557640 \end{array}$$

e. 
$$\begin{array}{r} 396 \\ \times 225 \\ \hline 1980 \\ 7920 \\ 79200 \\ \hline 89100 \end{array}$$

5. Find the products.

a. ① 
$$\begin{array}{r} 14 \\ \times 7 \\ \hline 98 \end{array}$$
 ② 
$$\begin{array}{r} 98 \\ \times 46 \\ \hline 588 \\ 3920 \\ \hline 4508 \end{array}$$

b. ① 
$$\begin{array}{r} 12 \\ \times 8 \\ \hline 96 \end{array}$$
 ② 
$$\begin{array}{r} 96 \\ \times 34 \\ \hline 384 \\ 2880 \\ \hline 3264 \end{array}$$

c. ① 
$$\begin{array}{r} 6 \\ \times 82 \\ \hline 12 \\ 480 \\ \hline 492 \end{array}$$
 ② 
$$\begin{array}{r} 492 \\ \times 150 \\ \hline 000 \\ 24600 \\ 49200 \\ \hline 73800 \end{array}$$

d. ① 
$$\begin{array}{r} 57 \\ \times 14 \\ \hline 228 \\ 570 \\ \hline 798 \end{array}$$
 ② 
$$\begin{array}{r} 798 \\ \times 231 \\ \hline 798 \\ 23940 \\ 159600 \\ \hline 184338 \end{array}$$

e. ① 
$$\begin{array}{r} 58 \\ \times 18 \\ \hline 464 \\ 580 \\ \hline 1044 \end{array}$$
 ② 
$$\begin{array}{r} 1044 \\ \times 92 \\ \hline 2088 \\ 93960 \\ \hline 96048 \end{array}$$

### EXERCISE 6D

Simplify.

- a.  $4 \times 7 + 6 \times 8$   
 $= 28 + 48$   
 $= 76$

b.  $5 \times 3 + 8 \times 2$   
 $= 15 + 16$   
 $= 31$

c.  $11 \times 6 + 12 \times 7$   
 $= 66 + 84$   
 $= 150$

d.  $15 \times 5 + 13 \times 1$   
 $= 75 + 13$   
 $= 88$
- a.  $7 \times 6 - 3 \times 4$   
 $= 42 - 12$   
 $= 30$

b.  $14 \times 7 - 5 \times 8$   
 $= 98 - 40$   
 $= 58$

c.  $17 \times 6 - 13 \times 7$   
 $= 102 - 91$   
 $= 11$

d.  $20 \times 5 - 15 \times 2$   
 $= 100 - 30$   
 $= 70$
- a.  $10 \times 15 + 11 \times 2 - 8 \times 7$   
 $= 150 + 22 - 56$   
 $= 116$

b.  $15 \times 4 + 14 \times 5 - 12 \times 10$   
 $= 60 + 70 - 120$   
 $= 130 - 120 = 10$

c.  $12 \times 13 + 22 \times 8 - 2 \times 110$   
 $= 156 + 176 - 220$   
 $= 332 - 220$   
 $= 112$



$$\begin{aligned}
 4. \quad a. \quad & 14 \times 6 - 3 \times 8 + 11 \times 3 \\
 & = 84 - 24 + 33 \\
 & = 84 + 33 - 24 \\
 & = 117 - 24 \\
 & = 93
 \end{aligned}$$

$$\begin{aligned}
 b. \quad & 121 \times 3 - 25 \times 4 + 12 \times 5 \\
 & = 363 - 100 + 60 \\
 & = 363 + 60 - 100 \\
 & = 423 - 100 \\
 & = 323
 \end{aligned}$$

$$\begin{aligned}
 c. \quad & 246 \times 20 - 120 \times 8 + 8 \times 100 \\
 & = 4920 - 960 + 800 \\
 & = 4920 + 800 - 960 \\
 & = 5720 - 960 \\
 & = 4760
 \end{aligned}$$

$$\begin{aligned}
 5. \quad a. \quad & 12 \times 8 - 5 \times 6 - 2 \times 11 \\
 & = 96 - 30 - 22 \\
 & = 44
 \end{aligned}$$

$$\begin{aligned}
 b. \quad & 243 \times 7 - 35 \times 8 - 40 \times 5 \\
 & = 1701 - 280 - 200 \\
 & = 1221
 \end{aligned}$$

$$\begin{aligned}
 6. \quad a. \quad & 7 \times 8 - 6 \times 10 + 4 \times 15 - 5 \times 5 \\
 & = 56 - 60 + 60 - 25 \\
 & = 56 + 60 - 60 - 25 \\
 & = 116 - 85 \\
 & = 31
 \end{aligned}$$

$$\begin{aligned}
 b. \quad & 115 \times 4 - 15 \times 6 - 16 \times 8 + 3 \times 400 \\
 & = 460 - 90 - 128 + 1200 \\
 & = 460 + 1200 - 90 - 128 \\
 & = 1660 - 218 \\
 & = 1442
 \end{aligned}$$

$$\begin{aligned}
 c. \quad & 17 \times 5 - 67 \times 9 + 245 \times 7 - 4 \times 100 \\
 & = 85 - 603 + 1715 - 400 \\
 & = 85 + 1715 - 603 - 400 \\
 & = 1800 - 1003 \\
 & = 797
 \end{aligned}$$

$$\begin{aligned}
 d. \quad & 12 \times 50 - 8 \times 15 - 25 \times 50 + 35 \times 95 \\
 & = 600 - 120 - 1250 + 3325 \\
 & = 600 + 3325 - 120 - 1250 \\
 & = 3925 - 1370 \\
 & = 2555
 \end{aligned}$$

### EXERCISE 6E

$$\begin{aligned}
 1. \quad & \text{Total number of floors} = 25 \\
 & \text{Each floor has} = 7 \text{ flats} \\
 & \text{Total no. of flats in the} \\
 & \text{building} = 25 \times 7 = 175
 \end{aligned}$$

$$\begin{aligned}
 2. \quad & \text{Number of trips} = 5 \\
 & \text{Number of people travel on each} \\
 & \text{trip} = 54 \times 5 \\
 & = 270
 \end{aligned}$$

$$\begin{aligned}
 3. \quad & \text{Number of pens in a box} = 12 \\
 & \text{Number of pens in 60 boxes} = 12 \times 60 \\
 & = 720
 \end{aligned}$$

$$\begin{aligned}
 4. \quad & \text{Number of sheets of paper in a ream} = 500 \\
 & \text{Number of sheets of paper in 35 ream} = 500 \times 35 \\
 & = 17500
 \end{aligned}$$

$$\begin{aligned}
 5. \quad & \text{Cost of 1 m of cloth} = ₹ 255 \\
 & \text{Cost of 35 m of cloth} = ₹ 255 \times 35 \\
 & = ₹ 8925
 \end{aligned}$$

6. Number of ₹ 50 notes in a bag = ₹ 150  
 Money in the bag = ₹  $50 \times 150$   
 = ₹ 7500
7. Number of days in June = 30  
 Hours in a day = 24  
 Hours in the month of June =  $30 \times 24$   
 = 720
8. Number of sections in a class = 4  
 Number of students in each section = 30  
 Total number of students in a class =  $30 \times 4 = 120$   
 Number of students in class 1 to 10 =  $120 \times 10$   
 =  $120 \times 10 = 1200$
9. Minutes in a day =  $24 \times 60 = 1440$   
 Number of days in two weeks =  $2 \times 7 = 14$   
 Minutes in two weeks =  $1440 \times 14$   
 = 20160
10. Seconds in 1 hour =  $1 \times 60 \times 60 = 3600$   
 Seconds in 6 hour =  $3600 \times 6$   
 = 21600

**Chapter 7 Division**

**EXERCISE 7A**

Fill in.

1. a. 42            b. 143            c. 1            d. 250  
 2. a. 1            b. 17            c. 0            d. 0  
 3. a. 21            b. 110            c. 91            d. 70

Divide.

4. a. 

			3	2	
1	5	4	8	0	
		-	4	5	
			3	0	
			-	3	0
				0	

 b. 

			3	5	
2	1	7	3	5	
		-	6	3	
			1	0	5
		-	1	0	5
				0	

 c. 

			2	0	6	
2	2	4	5	3	2	
		-	4	4		
			1	3	2	
			-	1	3	2
					0	

 d. 

			2	0	3	
3	8	7	7	1	4	
		-	7	6		
			1	1	4	
			-	1	1	4
					0	

5. a. 
$$\begin{array}{r} 8 \\ 11 \overline{) 88} \\ \underline{-88} \\ 0 \end{array}$$
 b. 
$$\begin{array}{r} 6 \\ 13 \overline{) 78} \\ \underline{-78} \\ 0 \end{array}$$
 c. 
$$\begin{array}{r} 5 \\ 17 \overline{) 85} \\ \underline{-85} \\ 0 \end{array}$$
 d. 
$$\begin{array}{r} 7 \\ 16 \overline{) 112} \\ \underline{-112} \\ 0 \end{array}$$
 e. 
$$\begin{array}{r} 8 \\ 15 \overline{) 120} \\ \underline{-120} \\ 0 \end{array}$$
  
 Q = 8, R = 0    Q = 6, R = 0    Q = 5, R = 0    Q = 7, R = 0    Q = 8, R = 0

6. a. 
$$\begin{array}{r} 10 \\ 11 \overline{) 110} \\ \underline{-11} \\ 00 \end{array}$$
 Q = 10, R = 0

b. 
$$\begin{array}{r} 15 \\ 13 \overline{) 197} \\ \underline{-13} \\ 67 \\ \underline{-65} \\ 2 \end{array}$$
 Q = 15, R = 2

c. 
$$\begin{array}{r} 308 \\ 12 \overline{) 3696} \\ \underline{-36} \\ 096 \\ \underline{-96} \\ 0 \end{array}$$
 Q = 308, R = 0

d. 
$$\begin{array}{r} 223 \\ 14 \overline{) 3124} \\ \underline{-28} \\ 32 \\ \underline{-28} \\ 44 \\ \underline{-42} \\ 2 \end{array}$$
 Q = 223, R = 2

e. 
$$\begin{array}{r} 420 \\ 18 \overline{) 7560} \\ \underline{-72} \\ 36 \\ \underline{-36} \\ 00 \end{array}$$
 Q = 420, R = 0

7. a. 
$$\begin{array}{r} 14 \\ 23 \overline{) 322} \\ \underline{-23} \\ 92 \\ \underline{-92} \\ 0 \end{array}$$
 Q = 14, R = 0

b. 
$$\begin{array}{r} 18 \\ 27 \overline{) 486} \\ \underline{-27} \\ 216 \\ \underline{-216} \\ 0 \end{array}$$
 Q = 18, R = 0

c. 
$$\begin{array}{r} 30 \\ 25 \overline{) 765} \\ \underline{-75} \\ 15 \end{array}$$
 Q = 30, R = 15

d. 
$$\begin{array}{r} 21 \\ 43 \overline{) 903} \\ \underline{-86} \\ 43 \\ \underline{-43} \\ 0 \end{array}$$
 Q = 21, R = 2

e. 
$$\begin{array}{r} 15 \\ 48 \overline{) 746} \\ \underline{-48} \\ 266 \\ \underline{-240} \\ 26 \end{array}$$
 Q = 15, R = 26

8. a. 
$$\begin{array}{r} 132 \\ 28 \overline{) 3696} \\ \underline{-28} \\ 89 \\ \underline{-84} \\ 56 \\ \underline{-56} \\ 0 \end{array}$$
 Q = 132, R = 0

b. 
$$\begin{array}{r} 127 \\ 53 \overline{) 6731} \\ \underline{-53} \\ 143 \\ \underline{-106} \\ 371 \\ \underline{-371} \\ 0 \end{array}$$
 Q = 127, R = 0

c. 
$$\begin{array}{r} 203 \\ 33 \overline{) 6699} \\ \underline{-66} \\ 099 \\ \underline{-99} \\ 0 \end{array}$$
 Q = 203, R = 0

d. 
$$\begin{array}{r} 241 \\ 32 \overline{) 7742} \\ \underline{-64} \\ 134 \\ \underline{-128} \\ 62 \\ \underline{-62} \\ 0 \end{array}$$
 Q = 241, R = 30

e. 
$$\begin{array}{r} 66 \\ 96 \overline{) 6336} \\ \underline{-576} \\ 576 \\ \underline{-576} \\ 0 \end{array}$$
 Q = 66, R = 0

$$\begin{array}{r}
 806 \\
 39 \overline{) 31434} \\
 \underline{-312} \phantom{0} \\
 234 \\
 \underline{-234} \\
 0
 \end{array}$$

Q = 806, R = 0

$$\begin{array}{r}
 1050 \\
 45 \overline{) 47250} \\
 \underline{-45} \phantom{00} \\
 225 \\
 \underline{-225} \\
 00
 \end{array}$$

Q = 1050, R = 0

$$\begin{array}{r}
 205 \\
 54 \overline{) 11079} \\
 \underline{-108} \phantom{0} \\
 279 \\
 \underline{-270} \\
 9
 \end{array}$$

Q = 205, R = 9

$$\begin{array}{r}
 960 \\
 85 \overline{) 81600} \\
 \underline{-765} \phantom{0} \\
 510 \\
 \underline{-510} \\
 00
 \end{array}$$

Q = 960, R = 0

$$\begin{array}{r}
 2060 \\
 16 \overline{) 32960} \\
 \underline{-32} \phantom{00} \\
 096 \\
 \underline{-96} \\
 00
 \end{array}$$

Q = 2060, R = 0

$$\begin{array}{r}
 8300 \\
 19 \overline{) 157700} \\
 \underline{-152} \phantom{00} \\
 57 \\
 \underline{-57} \\
 000
 \end{array}$$

Q = 8300, R = 0

$$\begin{array}{r}
 408 \\
 34 \overline{) 13872} \\
 \underline{-136} \phantom{0} \\
 272 \\
 \underline{-272} \\
 0
 \end{array}$$

Q = 408, R = 0

$$\begin{array}{r}
 8507 \\
 54 \overline{) 459378} \\
 \underline{-432} \phantom{00} \\
 273 \\
 \underline{-270} \\
 378 \\
 \underline{-378} \\
 0
 \end{array}$$

Q = 8507, R = 0

$$\begin{array}{r}
 13465 \\
 39 \overline{) 525140} \\
 \underline{-39} \phantom{00} \\
 135 \\
 \underline{-117} \\
 181 \\
 \underline{-156} \\
 254 \\
 \underline{-234} \\
 200 \\
 \underline{-195} \\
 5
 \end{array}$$

Q = 13465, R = 5

$$\begin{array}{r}
 3760 \\
 56 \overline{) 210566} \\
 \underline{-168} \phantom{00} \\
 425 \\
 \underline{-392} \\
 336 \\
 \underline{-336} \\
 06
 \end{array}$$

Q = 3760, R = 6

11. Divide and check the answer :

$$\begin{array}{r}
 4 \\
 16 \overline{) 70} \\
 \underline{-64} \\
 6
 \end{array}$$

As  $16 \times 4 + 6 = 70$ ,  
the answer is correct.

$$\begin{array}{r}
 7 \\
 17 \overline{) 135} \\
 \underline{-119} \\
 16
 \end{array}$$

As  $17 \times 7 + 16 = 135$ ,  
the answer is correct.

$$\begin{array}{r}
 29 \\
 35 \overline{) 1015} \\
 \underline{-70} \\
 315 \\
 \underline{-315} \\
 0
 \end{array}$$

As  $35 \times 29 + 0 = 1015$ ,  
the answer is correct.

$$\begin{array}{r} 33 \\ 74 \overline{) 2466} \\ \underline{-222} \\ 246 \\ \underline{-222} \\ 24 \end{array}$$

As  $74 \times 33 + 24 = 2466$ ,  
the answer is correct.

$$\begin{array}{r} 78 \\ 49 \overline{) 3822} \\ \underline{-343} \\ 392 \\ \underline{-392} \\ 00 \end{array}$$

As  $49 \times 78 + 0 = 3822$ ,  
the answer is correct.

### EXERCISE 7B

1. Write the quotient (Q) and the remainder (R).

a.  $Q=5, R=3$

b.  $Q=7, R=7$

c.  $Q=18, R=2$

d.  $Q=34, R=0$

e.  $Q=134, R=8$

f.  $Q=6284, R=3$

g.  $Q=4, R=22$

h.  $Q=22, R=50$

i.  $Q=507, R=0$

j.  $Q=2, R=675$

k.  $Q=20, R=632$

l.  $Q=852, R=130$

2. a. 
$$\begin{array}{r} 3 \\ 30 \overline{) 90} \\ \underline{-90} \\ 0 \end{array}$$

$\therefore 90 \div 30 = 3$

b. 
$$\begin{array}{r} 6 \\ 30 \overline{) 180} \\ \underline{-180} \\ 0 \end{array}$$

$\therefore 180 \div 30 = 6$

c. 
$$\begin{array}{r} 13 \\ 40 \overline{) 520} \\ \underline{-40} \\ 120 \\ \underline{-120} \\ 0 \end{array}$$

$\therefore 520 \div 40 = 13$

d. 
$$\begin{array}{r} 40 \\ 50 \overline{) 2000} \\ \underline{-2000} \\ 00 \end{array}$$

$\therefore 2000 \div 50 = 40$

e. 
$$\begin{array}{r} 31 \\ 60 \overline{) 1860} \\ \underline{-180} \\ 60 \\ \underline{-60} \\ 0 \end{array}$$

$\therefore 1860 \div 60 = 31$

f. 
$$\begin{array}{r} 810 \\ 70 \overline{) 56700} \\ \underline{-560} \\ 70 \\ \underline{-70} \\ 00 \end{array}$$

$\therefore 56700 \div 70 = 810$

g. 
$$\begin{array}{r} 7 \\ 200 \overline{) 1400} \\ \underline{-1400} \\ 0 \end{array}$$

$\therefore 1400 \div 200 = 7$

h. 
$$\begin{array}{r} 41 \\ 900 \overline{) 36900} \\ \underline{-3600} \\ 900 \\ \underline{-900} \\ 0 \end{array}$$

$\therefore 36900 \div 900 = 41$

i. 
$$\begin{array}{r} 60 \\ 500 \overline{) 30000} \\ \underline{-3000} \\ 00 \end{array}$$

$\therefore 30000 \div 500 = 60$

j. 
$$\begin{array}{r} 7 \\ 7000 \overline{) 49000} \\ \underline{-49000} \\ 0 \end{array}$$

$\therefore 49000 \div 7000 = 7$

k. 
$$\begin{array}{r} 7 \\ 6000 \overline{) 42000} \\ \underline{-42000} \\ 0 \end{array}$$

$\therefore 42000 \div 6000 = 7$

l. 
$$\begin{array}{r} 2 \\ 5000 \overline{) 10000} \\ \underline{-10000} \\ 0 \end{array}$$

$\therefore 10000 \div 5000 = 2$

Divide.

3. a. 
$$\begin{array}{r} 4 \\ 222 \overline{) 888} \\ \underline{-888} \\ 0 \end{array}$$

$Q=4, R=0$

b. 
$$\begin{array}{r} 6 \\ 145 \overline{) 870} \\ \underline{-870} \\ 0 \end{array}$$

$Q=6, R=0$

c. 
$$\begin{array}{r} 3 \\ 201 \overline{) 706} \\ \underline{-603} \\ 103 \end{array}$$

$Q=3, R=103$

d. 
$$\begin{array}{r} 3 \\ 240 \overline{) 720} \\ \underline{-720} \\ 0 \end{array}$$

$Q=3, R=0$

e. 
$$\begin{array}{r} 5 \\ 172 \overline{) 875} \\ \underline{-860} \\ 15 \end{array}$$

$Q=5, R=15$

$$\begin{array}{r}
 4 \\
 135 \overline{) 1485} \\
 \underline{-135} \\
 135 \\
 \underline{-135} \\
 0
 \end{array}
 \quad
 \begin{array}{r}
 11 \\
 170 \overline{) 1875} \\
 \underline{-170} \\
 175 \\
 \underline{-170} \\
 5
 \end{array}
 \quad
 \begin{array}{r}
 38 \\
 243 \overline{) 9234} \\
 \underline{-729} \\
 1944 \\
 \underline{-1944} \\
 0
 \end{array}
 \quad
 \begin{array}{r}
 24 \\
 314 \overline{) 7536} \\
 \underline{-628} \\
 1256 \\
 \underline{-1256} \\
 0
 \end{array}
 \quad
 \begin{array}{r}
 20 \\
 432 \overline{) 8687} \\
 \underline{-864} \\
 47
 \end{array}$$

Q = 11, R = 0    Q = 11, R = 5    Q = 38, R = 0    Q = 24, R = 0    Q = 20, R = 47

$$\begin{array}{r}
 65 \\
 188 \overline{) 12220} \\
 \underline{-1128} \\
 940 \\
 \underline{-940} \\
 0
 \end{array}
 \quad
 \begin{array}{r}
 202 \\
 314 \overline{) 63428} \\
 \underline{-628} \\
 628 \\
 \underline{-628} \\
 0
 \end{array}
 \quad
 \begin{array}{r}
 43 \\
 760 \overline{) 32870} \\
 \underline{-3040} \\
 2470 \\
 \underline{-2280} \\
 190
 \end{array}$$

Q = 65, R = 0

Q = 202, R = 0

Q = 43, R = 190

$$\begin{array}{r}
 123 \\
 809 \overline{) 99507} \\
 \underline{-809} \\
 1860 \\
 \underline{-1618} \\
 2427 \\
 \underline{-2427} \\
 0
 \end{array}
 \quad
 \begin{array}{r}
 400 \\
 543 \overline{) 217200} \\
 \underline{-2172} \\
 000
 \end{array}$$

Q = 400, R = 0

Q = 123, R = 0

### EXERCISE 7C

- 60 minutes make 1 hour.  
 $\therefore$  540 minutes make  $540 \div 60$  hours  
 $= 9$  hours  
 Hence, Rohan's father spend 9 hours at his office.
- 60 seconds make 1 minute.  
 $\therefore$  2700 seconds make  $2700 \div 60$  minutes  
 $= 45$  minutes  
 Hence, 2700 seconds have 45 minutes.
- 24 hours make 1 day.  
 $\therefore$  7800 hours make  $7800 \div 24$  days  
 $= 325$  days  
 Hence, 7800 hours make 325 days
- 55 toys were packed in 1 box.  
 $\therefore$  3068 were required  $3068 \div 55$  box  
 $= 55$  boxes 43 left out  
 Hence, 55 boxes were used and 43 left out.
- Each family got 34 kg or rice.  
 $\therefore$  14552 kg rice will be distributed among  $14552 \div 34$  families  
 $= 428$  families  
 Hence, there are 428 families in the village.
- 93800 metre if wire was made for 40 days.  
 $\therefore$  Every day factory made  $93800 \div 40$  metres wire = 2345

7. 150 was collected from each student.  
 $\therefore 46,800$  was collected from  $46800 \div 150$  students = 312  
Hence, there are 312 students in the school.

8. a. Dividend = divisor  $\times$  quotient + remainder

$$6975 = 75 \times \text{quotient} + 0$$

$$\Rightarrow \text{quotient} = \frac{6975}{75} = 93$$

b. Dividend = divisor  $\times$  quotient + remainder

$$10650 = \text{divisor} \times 150 + 0$$

$$\Rightarrow \text{divisor} = \frac{10650}{150} = 71$$

c. The other number is  $20020 \div 308 = 65$

9. a. Dividend = divisor  $\times$  quotient + remainder

$$= 128 \times 72 + 45$$

$$= 9216 + 45$$

$$= 9261$$

b. Dividend = divisor  $\times$  quotient + remainder

$$= 65 \times 282 + 32$$

$$= 18330 + 32$$

$$= 18362$$

10. a. The greatest number of 4 digits = 9999

Is 9999 divisible by 38? We divide to find out. The division leaves 5 as remainder.

This means that if 9999 has 5 less, it will be divisible by 38.

$$9999 - 5 = 9994$$

$$\begin{array}{r} 263 \\ 38 \overline{) 9999} \\ \underline{-76} \phantom{00} \\ 239 \phantom{0} \\ \underline{-228} \phantom{0} \\ 119 \phantom{0} \\ \underline{-114} \phantom{0} \\ 5 \end{array}$$

b. The greatest number of 5 digits = 99999

Is 99999 divisible by 67? We divide to find out.

The division leaves 35 as remainder. This means that if 99999 has 35 less, it will be divisible by 67.

$$99999 - 35 = 99964$$

$$\begin{array}{r} 1492 \\ 67 \overline{) 99999} \\ \underline{-67} \phantom{000} \\ 329 \phantom{0} \\ \underline{-268} \phantom{0} \\ 619 \phantom{0} \\ \underline{-603} \phantom{0} \\ 169 \phantom{0} \\ \underline{-134} \phantom{0} \\ 35 \end{array}$$

### EXERCISE 7D

1. a.  $54 \div 6 \times 5$       b.  $120 \div 4$  of 5      c. 5 of  $24 \div 8$       d.  $6 \times 10 \div 5$   
 $= 9 \times 5$                        $= 120 \div 20$                        $= 120 \div 8$                        $= 6 \times 2$   
 $= 45$                                $= 6$                                        $= 15$                                        $= 12$

2. a.  $15 \times 3 - 52 \div 13$   
 $= 15 \times 3 - 4$   
 $= 45 - 4$   
 $= 41$
- b.  $280 \div 14$  of  $5 \times 4$   
 $= 280 \div 70 \times 4$   
 $= 4 \times 4$   
 $= 16$
- c.  $112 \div 4 + 3$  of  $110$   
 $= 112 \div 4 + 330$   
 $= 28 + 330$   
 $= 358$
3. a.  $3200 \div 80 \times 10 + 5$  of  $24 - 140 \div 7$   
 $= 3200 \div 80 \times 10 + 120 - 140 \div 7$   
 $= 40 \times 10 + 120 - 20$   
 $= 400 + 120 - 20$   
 $= 520 - 20$   
 $= 500$
- b.  $112 \div 14$  of  $4 + 325 \times 7 - 165$   
 $= 112 \div 56 + 325 \times 7 - 165$   
 $= 2 + 325 \times 7 - 165$   
 $= 2 + 2275 - 165$   
 $= 2277 - 165$   
 $= 2112$
4. a.  $2616 \div 8$  of  $3 - 21 \times 10 + 132$  of  $15$   
 $= 2616 \div 24 - 21 \times 10 + 1980$   
 $= 109 - 21 \times 10 + 1980$   
 $= 109 - 210 + 1980$   
 $= 109 + 1980 - 210$   
 $= 2089 - 210$   
 $= 1879$
- b.  $5120$  of  $16 \div 64 \times 20 + 18 \times 180$   
 $= 81920 \div 64 \times 20 + 18 \times 180$   
 $= 1280 \times 20 + 18 \times 180$   
 $= 25600 + 3240$   
 $= 28840$

### MENTAL MATHS

1. The distance between the first and the last nail =  $15 \text{ cm} + 15 \text{ cm} + 15 \text{ cm} = 45 \text{ cm}$
2. Number of rickshaw taken by the kids =  $38 \div 3$   
 $= 12$  and remainder  $2$
- Now, 2 kids need only 1 rickshaw.  
 So, total number of rickshaws required =  $12 + 1$   
 $= 13$

## Chapter 8 Multiples and Factors

### EXERCISE 8A

1. Fill in the blanks.  
 a. 7, 11    b. 3, 5, 13
2. Write the first four multiples of:  
 a.  $\textcircled{5}$  5, 10, 15, 20    b.  $\textcircled{8}$  8, 16, 24, 36    c.  $\textcircled{15}$  15, 30, 45, 60
3. Tick the multiples of the number in the circle:  
 a.  $\textcircled{5}$   $\boxed{10}$   $\boxed{25}$   $\boxed{40}$   $\boxed{55}$   $\boxed{60}$     b.  $\textcircled{6}$   $\boxed{18}$   $\boxed{28}$   $\boxed{32}$   $\boxed{42}$   $\boxed{94}$   
 c.  $\textcircled{10}$   $\boxed{25}$   $\boxed{40}$   $\boxed{70}$   $\boxed{200}$   $\boxed{105}$
4. a. 8, 16, 24, 32, 40, 48    b. 12, 24, 36, 48, 60, 72, 84, 96  
 c. 30, 35, 40, 45
5. a. 6, 12, 18    b. 12, 24, 36    c. 20, 40, 60



6. a. (i) 51, 53, 55, 57, 59, 61, 63, 65, 67, 69, 71  
 (ii) 97, 99, 101, 103, 105, 107, 109, 111, 113, 115  
 b. (i) 48, 50, 52, 54, 56, 58  
 (ii) 216, 218, 220, 222, 224, 226, 228

**EXERCISE 8B**

1. Fill in the blanks.  
 a. factors    b. factors    c. divisible
2. In each of the following, is the first number a factor of the second number?

a. 
$$\begin{array}{r} 19 \\ 4 \overline{)76} \\ \underline{-4} \phantom{0} \\ 36 \\ \underline{-36} \\ 0 \end{array}$$

$76 \div 4$  leaves no remainder.  
 $\therefore 4$  is a factor of 76.

b. 
$$\begin{array}{r} 16 \\ 9 \overline{)147} \\ \underline{-9} \phantom{0} \\ 57 \\ \underline{-54} \\ 3 \end{array}$$

$147 \div 9$  leaves a remainder.  
 $\therefore 9$  is not a factor of 147.

c. 
$$\begin{array}{r} 11 \\ 12 \overline{)136} \\ \underline{-12} \phantom{0} \\ 16 \\ \underline{-12} \\ 4 \end{array}$$

$136 \div 12$  leaves a remainder.  
 $\therefore 12$  is not a factor of 136.

d. 
$$\begin{array}{r} 31 \\ 15 \overline{)465} \\ \underline{-45} \phantom{0} \\ 15 \\ \underline{-15} \\ 0 \end{array}$$

$465 \div 15$  leaves no remainder.  
 $\therefore 15$  is a factor of 465.

e. 
$$\begin{array}{r} 51 \\ 18 \overline{)918} \\ \underline{-90} \phantom{0} \\ 18 \\ \underline{-18} \\ 0 \end{array}$$

$918 \div 18$  leaves no remainder.  
 $\therefore 18$  is a factor of 918.

3. Write three factors of the following numbers, other than 1 and the number itself.

a.  $2 \times 15 = 30$  ,  $3 \times 10 = 30$  ,  $5 \times 6 = 30$   
 $\therefore$  Three factors of 30 are 2, 3 and 5.

b.  $2 \times 18 = 36$  ,  $3 \times 12 = 36$  ,  $4 \times 9 = 36$   
 $\therefore$  Three factors of 36 are 2, 3 and 4.

c.  $3 \times 35 = 105$  ,  $5 \times 21 = 105$  ,  $7 \times 15 = 105$   
 $\therefore$  Three factors of 105 are 3, 5 and 7.

d.  $5 \times 143 = 715$  ,  $11 \times 65 = 715$  ,  $13 \times 55 = 715$

$\therefore$  Three factors of 715 are 5, 11 and 13.

e.  $2 \times 715 = 1430$  ,  $5 \times 286 = 1430$  ,  $10 \times 143 = 1430$

$\therefore$  Three factors of 1430 are 2, 5 and 10.

4. Write all the factors of the following numbers.

a.  $1 \times 10 = 10$  ,  $2 \times 5 = 10$  ,  $5 \times 2 = 10$  ,  $10 \times 1 = 10$

$\therefore$  1, 2, 5 and 10 are the factors of 10.

b.  $1 \times 20 = 20$  ,  $2 \times 10 = 20$  ,  $4 \times 5 = 20$  ,  $5 \times 4 = 20$   
 $10 \times 2 = 20$  ,  $20 \times 1 = 20$

$\therefore$  1, 2, 4, 5, 10 and 20 are the factors of 20.

c.  $1 \times 16 = 16$  ,  $2 \times 8 = 16$  ,  $4 \times 4 = 16$  ,  $8 \times 2 = 16$   
 $16 \times 1 = 16$  ,  $32 \times 1 = 32$

$\therefore$  1, 2, 4, 8, 16 and 32 are the factors of 32.

d.  $1 \times 54 = 54$  ,  $2 \times 27 = 54$  ,  $3 \times 18 = 54$  ,  $6 \times 9 = 54$   
 $9 \times 6 = 54$  ,  $18 \times 3 = 54$  ,  $27 \times 2 = 54$  ,  $54 \times 1 = 54$

$\therefore$  1, 2, 3, 6, 9, 18, 27 and 54 are the factors of 54.

e.  $1 \times 231 = 231$  ,  $3 \times 77 = 231$  ,  $7 \times 33 = 231$  ,  $11 \times 21 = 231$   
 $21 \times 11 = 231$  ,  $33 \times 7 = 231$  ,  $77 \times 3 = 231$  ,  $231 \times 1 = 231$

$\therefore$  1, 3, 7, 11, 21, 33, 77 and 231 are the factors of 231.

5. a. Which of the following numbers are factors of 375?

$1 \times 375 = 375$  ,  $3 \times 125 = 375$  ,  $5 \times 75 = 375$  ,  $15 \times 25 = 375$   
 $25 \times 15 = 375$  ,  $75 \times 5 = 375$  ,  $375 \times 1 = 375$

$\therefore$  1, 3, 5, 15, 25, 75 and 375 are the factors of 375.

b. Which of the following numbers are factors of 180?

$1 \times 180 = 180$  ,  $2 \times 90 = 180$  ,  $3 \times 60 = 180$   
 $4 \times 45 = 180$  ,  $6 \times 30 = 180$  ,  $10 \times 18 = 180$   
 $12 \times 15 = 180$  ,  $15 \times 12 = 180$  ,  $180 \times 1 = 180$

$\therefore$  1, 2, 3, 4, 6, 10, 12, 15 and 180 are the factors of 180.

### EXERCISE 8C

1. Numbers that end in 0 are divisible by 10.

a. 680 and 2000 are divisible by 10.

b. 800 is divisible by 10.

2. Numbers that end in 5 or 0 are divisible by 5.

a. 90 and 75 are divisible by 5.

b. 85, 120 and 5005 are divisible by 5.

3. A number is divisible by 2 if it is even.

a. 8, 400 and 14856 are divisible by 2.

b. 24, 60 and 8050 are divisible by 2.

4. A number is divisible by 3 if the sum of its digits is divisible by 3.
- a. 21 : The sum of the digits =  $2 + 1 = 3$ , which is divisible by 3.  
 87 : The sum of the digits =  $8 + 7 = 15$ , which is divisible by 3.  
 59 : The sum of the digits =  $5 + 9 = 14$ , which is not divisible by 3.  
 185 : The sum of the digits =  $1 + 8 + 5 = 14$ , which is not divisible by 3.  
 7650 : The sum of the digits =  $7 + 6 + 5 + 0 = 18$ , which is divisible by 3.
- b. 44 : The sum of the digits =  $4 + 4 = 8$ , which is not divisible by 3.  
 444 : The sum of the digits =  $4 + 4 + 4 = 12$ , which is divisible by 3.  
 88 : The sum of the digits =  $8 + 8 = 16$ , which is not divisible by 3.  
 888 : The sum of the digits =  $8 + 8 + 8 = 24$ , which is divisible by 3.  
 98 : The sum of the digits =  $9 + 8 = 17$ , which is not divisible by 3.  
 999 : The sum of the digits =  $9 + 9 + 9 = 27$ , which is divisible by 3.
5. Fill in the smallest digit that makes the number divisible by the one in the square:
- a.  $\boxed{2}6\textcircled{0}$       b.  $\boxed{3}1\textcircled{2}$       c.  $\boxed{5}4\textcircled{0}$       d.  $\boxed{10}1\textcircled{70}$   
 e.  $\boxed{2}1\textcircled{0}8$       f.  $\boxed{3}27\textcircled{0}$       g.  $\boxed{5}34\textcircled{0}0$       h.  $\boxed{10}345\textcircled{0}$
6. To be divisible by the second number, what smallest number should be added to the first?
- a. A number is divisible by 2 if it is even.  
 The number closest to 143 which is even is 144.  
 So,  $144 - 143 = 1$   
 Hence, we should add 1 to 143.
- b. Numbers that end in 0 are divisible by 10.  
 The number closest to 27 that end in 0 is 30.  
 So,  $30 - 27 = 3$   
 Hence, we should add 3 to 27.
- c. Numbers that end in 5 or 0 are divisible by 5.  
 The number closest to 1871 that end in 0 or 5 is 1875.  
 So,  $1875 - 1871 = 4$   
 Hence, we should add 4 to 1871.
- d. The sum of the digits is  $3 + 0 + 1 = 4$ . The next sum that is divisible by 3 is 6.  
 So, the required number that needs to be added is  $6 - 4 = 2$ .  
 ( $301 + 2 = 303$ , which is divisible by 3.)
- e. The sum of the digits is  $6 + 2 + 8 + 1 = 17$ . The next sum that is divisible by 3 is 18.  
 So the required number that needs to be added is  $18 - 17 = 1$ .  
 ( $6281 + 1 = 6282$ , which is divisible by 3.)

7. What smallest number should be subtracted from the first number to make it divisible by the second?
- a. A number is divisible by 2 if it is even.  
The number closest to 65 which is even is 64.  
So,  $65 - 64 = 1$   
Hence, we should subtract 1 from 65.
- b. Numbers that end in 0 are divisible by 10.  
The number closest to 879 that end in 0 is 870.  
So,  $879 - 870 = 9$   
Hence, we should subtract 9 from 879.
- c. Numbers that end in 5 or 0 are divisible by 5.  
The number closest to 1012 that end in 5 or 0 is 1010.  
So,  $1012 - 1010 = 2$   
Hence, we should subtract 2 from 1012.
- d. The sum of the digits is  $2 + 6 + 4 + 2 = 14$ . The previous sum that is divisible by 3 is 12.  
So, the required number that needs to be subtracted is  $14 - 12 = 2$ .  
( $2642 - 2 = 2640$ , which is divisible by 3).
- e. The sum of the digits is  $1 + 5 + 3 + 7 = 16$ . The previous sum that is divisible by 3 is 15.  
So, the required number that needs to be subtracted is  $16 - 15 = 1$ .  
( $1537 - 1 = 1536$ , which is divisible by 3).
8. a. The smallest 3-digit number is 100. This number is divisible by 5.  
 $\therefore$  The smallest 3-digit multiple of 5 is 100.  
The greatest 5-digit number is 99999. The sum of the digits is  $9 + 9 + 9 + 9 + 9 = 45$ . Which is divisible by 3.  
 $\therefore$  The greatest 5-digit number divisible by 3 is 99999.
- b. The greatest 4-digit number is 9999. The previous number that end in 0 or 5 is 9995.  
 $\therefore$  The biggest 4-digit number divisible by 5 is 9995.  
Smallest 5-digit number is 10000 which is divisible by 10.  
 $\therefore$  The smallest 5-digit multiple of 10 is 10000.
9. a. The smallest 3-digit number is 100 which is divisible by 2 but not divisible by 3.  
Sum of the digit of 100 =  $1 + 0 + 0 = 1$   
Nearest sum divisible by 3 = 3  
So,  $3 - 1 = 2$  should be added.  
So,  $100 + 2 = 102$  which is divisible by 3 and by 2.  
 $\therefore$  The smallest 3-digits number divisible by 2 as well as 3 is 102.

- b. The biggest 4-digit number is 9999. The previous closest number that ends in 0 or 5 is 9995 but this number is not divisible by 10.

Now, previous number is 9990 that ends in 0 or 5. This is divisible by both 5 and 10.

∴ The biggest 4-digit number, which is divisible by 5 and 10 is 9990.

10. a. The numbers between 200 and 222 that are divisible by 2 are 202, 204, 206, 208, 210, 212, 214, 216, 218 and 220.

202 : The sum of digits =  $2 + 0 + 2 = 4$ , which is not divisible by 3.

204 : The sum of digits =  $2 + 0 + 4 = 6$ , which is divisible by 3.

206 : The sum of digits =  $2 + 0 + 6 = 8$ , which is not divisible by 3.

208 : The sum of digits =  $2 + 0 + 8 = 10$ , which is not divisible by 3.

210 : The sum of digits =  $2 + 1 + 0 = 3$ , which is divisible by 3.

212 : The sum of digits =  $2 + 1 + 2 = 5$ , which is not divisible by 3.

214 : The sum of digits =  $2 + 1 + 4 = 7$ , which is not divisible by 3.

216 : The sum of digits =  $2 + 1 + 6 = 9$ , which is divisible by 3.

218 : The sum of digits =  $2 + 1 + 8 = 11$ , which is not divisible by 3.

220 : The sum of digits =  $2 + 2 + 0 = 4$ , which is not divisible by 3.

∴ The numbers between 200 and 222 that are divisible by both 2 and 3 are 204, 210, 216.

- b. The numbers between 679 and 706 that are divisible by 5 are 680, 685, 690, 695, 700 and 705.

680 : This number ends in 0, which is divisible by 10.

685 : This number ends in 5, which is not divisible by 10.

690 : This number ends in 0, which is divisible by 10.

695 : This number ends in 5, which is not divisible by 10.

700 : This number ends in 0, which is divisible by 10.

705 : This number ends in 5, which is not divisible by 10.

∴ The numbers between 679 and 706 that are divisible by both 5 and 10 are 680, 690 and 700.

- c. The numbers between 100 and 120 that are divisible by 2 are 102, 104, 106, 108, 110, 112, 114, 116 and 118.

102 : This number does not end in 5 or 0, so it is not divisible by 5.

104 : This number does not end in 5 or 0, so it is not divisible by 5.

106 : This number does not end in 5 or 0, so it is not divisible by 5.

108 : This number does not end in 5 or 0, so it is not divisible by 5.

110 : This number ends in 0, so it is divisible by 5.

112 : This number does not end in 5 or 0, so it is not divisible by 5.

114 : This number does not end in 5 or 0, so it is not divisible by 5.

116 : This number does not end in 5 or 0, so it is not divisible by 5.

118 : This number does not end in 5 or 0, so it is not divisible by 5.

∴ The number between 100 and 120 that is divisible by both 2 and 5 is 110.

### EXERCISE 8D

1. a. 2, 13      b. 5, 11      c. 7, 17
2. a.  $33 = 3 \times 11$       b.  $6 = 2 \times 3$   
 $35 = 5 \times 7$        $15 = 3 \times 5$   
 $153 = 3 \times 3 \times 17$        $\therefore$  Composite numbers = 6, 15  
 $\therefore$  Composite numbers = 33, 35, 153
- c.  $92 = 2 \times 2 \times 23$   
 $201 = 3 \times 67$   
 $\therefore$  Composite numbers = 92, 2101
3. a. 2 and 3      b. yes, 2      c. 2, 3, 5, 7, 11, 13, 17, 19, 23, 29; ten  
d. 41, 43, 47, 53, 59
4. a. 4, 8      b. 4, 6, 8, 9, 10, 12, 14, 15, 16, 18; ten      c. 16, 18, 20, 21, 22, 24
5. True (T) or false (F)?  
a. F      b. F      c. T ( $4+9=13$ )      d. F
6. Write the prime factors by breaking down into smaller factors.
- a.  $40 = 4 \times 10$       b.  $63 = 9 \times 7$   
 $= 2 \times 2 \times 2 \times 5$        $= 3 \times 3 \times 7$   
 $\therefore 40 = 2 \times 2 \times 2 \times 5$        $\therefore 63 = 3 \times 3 \times 7$
- c.  $96 = 12 \times 8$       d.  $105 = 15 \times 7$   
 $= 4 \times 3 \times 2 \times 2 \times 2$        $= 3 \times 5 \times 7$   
 $= 2 \times 2 \times 3 \times 2 \times 2 \times 2$        $\therefore 105 = 3 \times 5 \times 7$   
 $\therefore 96 = 2 \times 2 \times 2 \times 2 \times 2 \times 3$
- e.  $840 = 84 \times 10$       f.  $2520 = 252 \times 10$   
 $= 12 \times 7 \times 10$        $= 2 \times 126 \times 2 \times 5$   
 $= 2 \times 6 \times 7 \times 2 \times 5$        $= 2 \times 2 \times 63 \times 2 \times 5$   
 $= 2 \times 2 \times 3 \times 7 \times 2 \times 5$        $= 2 \times 2 \times 3 \times 21 \times 2 \times 5$   
 $\therefore 840 = 2 \times 2 \times 2 \times 3 \times 5 \times 7$        $\therefore 2520 = 2 \times 2 \times 2 \times 3 \times 3 \times 5 \times 7$
7. Write the prime factorization of the following numbers by repeated division.
- a. 
$$\begin{array}{r|l} 2 & 24 \\ \hline 2 & 12 \\ \hline 2 & 6 \\ \hline 3 & 3 \\ \hline & 1 \end{array}$$
  
 $\therefore 24 = 2 \times 2 \times 2 \times 3$
- b. 
$$\begin{array}{r|l} 3 & 69 \\ \hline 23 & 23 \\ \hline & 1 \end{array}$$
  
 $\therefore 69 = 3 \times 23$
- c. 
$$\begin{array}{r|l} 2 & 120 \\ \hline 2 & 60 \\ \hline 2 & 30 \\ \hline 3 & 15 \\ \hline 5 & 5 \\ \hline & 1 \end{array}$$
  
 $\therefore 120 = 2 \times 2 \times 2 \times 3 \times 5$

$$\begin{array}{r}
 2 \overline{) 512} \\
 \underline{2} \phantom{1} \phantom{2} \\
 2 \phantom{1} \phantom{2} \phantom{8} \\
 \underline{2} \phantom{1} \phantom{2} \phantom{8} \\
 2 \phantom{1} \phantom{2} \phantom{8} \phantom{4} \\
 \underline{2} \phantom{1} \phantom{2} \phantom{8} \phantom{4} \\
 2 \phantom{1} \phantom{2} \phantom{8} \phantom{4} \phantom{16} \\
 \underline{2} \phantom{1} \phantom{2} \phantom{8} \phantom{4} \phantom{16} \\
 2 \phantom{1} \phantom{2} \phantom{8} \phantom{4} \phantom{16} \phantom{8} \\
 \underline{2} \phantom{1} \phantom{2} \phantom{8} \phantom{4} \phantom{16} \phantom{8} \\
 2 \phantom{1} \phantom{2} \phantom{8} \phantom{4} \phantom{16} \phantom{8} \phantom{4} \\
 \underline{2} \phantom{1} \phantom{2} \phantom{8} \phantom{4} \phantom{16} \phantom{8} \phantom{4} \\
 2 \phantom{1} \phantom{2} \phantom{8} \phantom{4} \phantom{16} \phantom{8} \phantom{4} \phantom{2} \\
 \underline{2} \phantom{1} \phantom{2} \phantom{8} \phantom{4} \phantom{16} \phantom{8} \phantom{4} \phantom{2} \\
 1
 \end{array}$$

$$\begin{array}{r}
 2 \overline{) 1050} \\
 \underline{3} \phantom{5} \phantom{2} \phantom{5} \\
 5 \phantom{1} \phantom{7} \phantom{5} \\
 \underline{5} \phantom{1} \phantom{7} \phantom{5} \\
 7 \phantom{1} \phantom{7} \phantom{5} \\
 \underline{7} \phantom{1} \phantom{7} \phantom{5} \\
 1
 \end{array}$$

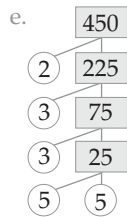
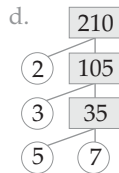
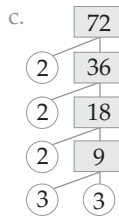
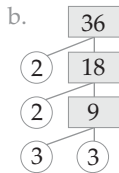
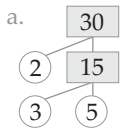
$$\begin{array}{r}
 5 \overline{) 1225} \\
 \underline{5} \phantom{2} \phantom{4} \phantom{5} \\
 7 \phantom{2} \phantom{4} \phantom{5} \\
 \underline{7} \phantom{2} \phantom{4} \phantom{5} \\
 7 \phantom{2} \phantom{4} \phantom{5} \\
 \underline{7} \phantom{2} \phantom{4} \phantom{5} \\
 1
 \end{array}$$

$$\therefore 1050 = 2 \times 3 \times 5 \times 5 \times 7$$

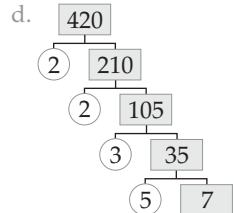
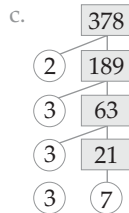
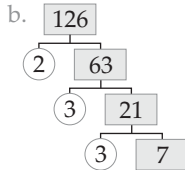
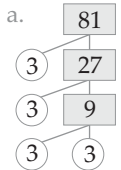
$$\therefore 1225 = 5 \times 5 \times 7 \times 7$$

$$\therefore 512 = 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2$$

8. Find the prime factorization by drawing factor trees.



9. Fill in to show prime factorization. You can only fill prime factors in the circles.



### PRACTICE SHEET-2

Fill in.

- a. 0      b. 6000      c. 6160      d. 45000
- a. 5      b. 9      c. 2      d. 19
- a. 81      b. 6      c. 80      d. 20
- a. multiple      b. factors      c. divisible      d. 27, 103      e. 16, 5000  
f. 48, 64, respectively      g. 2, 3, 4, 6      h. 2      i. 23, 17      j. 22, 81

5. Multiply:

a. 
$$\begin{array}{r}
 45 \\
 \times 14 \\
 \hline
 180 \\
 450 \\
 \hline
 630
 \end{array}$$

b. 
$$\begin{array}{r}
 86 \\
 \times 57 \\
 \hline
 602 \\
 4300 \\
 \hline
 4902
 \end{array}$$

c. 
$$\begin{array}{r}
 293 \\
 \times 25 \\
 \hline
 1465 \\
 5860 \\
 \hline
 7325
 \end{array}$$

$$\begin{array}{r}
 407 \\
 \times 38 \\
 \hline
 3256 \\
 12210 \\
 \hline
 15466
 \end{array}$$

$$\begin{array}{r}
 2376 \\
 \times 590 \\
 \hline
 0000 \\
 213840 \\
 1188000 \\
 \hline
 1401840
 \end{array}$$

6. Divide:

$$\begin{array}{r}
 32 \\
 15 \overline{)480} \\
 \underline{-45} \phantom{0} \\
 30 \\
 \underline{-30} \\
 0
 \end{array}$$

$$Q = 32, R = 0$$

$$\begin{array}{r}
 25 \\
 34 \overline{)866} \\
 \underline{-68} \phantom{0} \\
 186 \\
 \underline{-170} \\
 16
 \end{array}$$

$$Q = 25, R = 16$$

$$\begin{array}{r}
 304 \\
 27 \overline{)8217} \\
 \underline{-81} \phantom{0} \\
 117 \\
 \underline{-108} \\
 9
 \end{array}$$

$$Q = 304, R = 9$$

$$\begin{array}{r}
 4 \\
 512 \overline{)2304} \\
 \underline{-2048} \\
 256
 \end{array}$$

$$Q = 4, R = 256$$

$$\begin{array}{r}
 620 \\
 320 \overline{)198400} \\
 \underline{-1920} \phantom{0} \\
 640 \\
 \underline{-640} \\
 00
 \end{array}$$

$$Q = 620, R = 0$$

7. Simplify:

$$\begin{aligned}
 \text{a. } & 145 \times 3 - 14 \times 5 - 12 \times 8 + 7 \times 150 \\
 & = 435 - 70 - 96 + 1050 \\
 & = 435 + 1050 - 70 - 96 \\
 & = 1485 - 166 \\
 & = 1319
 \end{aligned}$$

$$\begin{aligned}
 \text{b. } & 810 \div 90 \times 12 - 3 \text{ of } 15 + 120 - 32 \div 4 \\
 & = 810 \div 90 \times 12 - 3 \times 15 + 120 - 32 \div 4 \\
 & = 9 \times 12 - 3 \times 15 + 120 - 8 \\
 & = 108 - 45 + 120 - 8 \\
 & = 108 + 120 - 45 - 8 \\
 & = 228 - 53 \\
 & = 175
 \end{aligned}$$

8. a. Multiples of 2 = 2, 4, ..., 16, (18), ..., (36), 38, ...  
 Multiples of 9 = 9, (18), 27, (36), 45, ...  
 ∴ First two common multiples of 2 and 9 = 18, 36

b. Multiples of 6 = 6, (12), 18, (24), 30, ...  
 Multiples of 4 = 4, 8, (12), 16, 20, (24), 28, ...  
 ∴ First two common multiples of 6 and 4 = 12, 24

9. **Divisibility by 2**

258, 26130 are even numbers. So they are divisible by 2.

**Divisibility by 3**

87 : The sum of the digits = 8 + 7 = 15, which is divisible by 3.

49 : The sum of the digits = 4 + 9 = 13, which is not divisible by 3.



- 258 : The sum of the digits =  $2+5+8=15$ , which is divisible by 3.  
 1035 : The sum of the digits =  $1+0+3+5=9$ , which is divisible by 3.  
 26130 : The sum of the digits =  $2+6+1+3+0=12$ , which is divisible by 3.  
 $\therefore$  87, 258, 1035 and 26130 are divisible by 3.

**Divisibility by 5**

26130 ends with 0. So, this is divisible by 5.

**Divisibility by 10**

26130 ends with 0. So, this is divisible by 10.

10. a. The greatest 5-digit number = 99999  
 The closest previous number ending with 0 or 5 = 99995  
 $\therefore$  The greatest 5-digit number that is divisible by 5 is 99995.
- b. The numbers between 421 and 433 divisible by 2 are 422, 424, 426, 428, 430 and 432.
- 422 : The sum of the digits =  $4+2+2=8$ , which is not divisible by 3.  
 424 : The sum of the digits =  $4+2+4=10$ , which is not divisible by 3.  
 426 : The sum of the digits =  $4+2+6=12$ , which is divisible by 3.  
 428 : The sum of the digits =  $4+2+8=14$ , which is not divisible by 3.  
 430 : The sum of the digits =  $4+3+0=7$ , which is not divisible by 3.  
 432 : The sum of the digits =  $4+3+2=9$ , which is divisible by 3.  
 $\therefore$  The numbers that are divisible by both 2 and 3 are 426 and 432.

11. a. 
$$\begin{array}{r|l} 2 & 54 \\ \hline 3 & 27 \\ \hline 3 & 9 \\ \hline 3 & 3 \\ \hline & 1 \end{array}$$

$\therefore 54 = 2 \times 3 \times 3 \times 3$

b. 
$$\begin{array}{r|l} 3 & 525 \\ \hline 5 & 175 \\ \hline 5 & 35 \\ \hline 7 & 7 \\ \hline & 1 \end{array}$$

$\therefore 525 = 3 \times 5 \times 5 \times 7$

12. a. 4 hours =  $4 \times 60$  minutes = 240 minutes  
 $\therefore$  Number of planes land every minute = 2  
 $\therefore$  Number of planes land in 240 minutes =  $2 \times 240$   
 = 480
- b.  $\therefore$  60 seconds = 1 minute  
 $\therefore$  1800 seconds =  $\frac{1800}{60}$  minutes = 30 minutes  
 $\therefore$  1 second =  $\frac{1}{60}$  minute
- c. Other number =  $\frac{14260}{620}$   
 = 23

d. Divided = divisor  $\times$  quotient + remainder  
 $= 54 \times 68 + 34$   
 $= 3672 + 34 = 3706$

- e. The greatest 5-digit number is 99999.  
 $\therefore$  When we divide 9999 by 21, we got remained 18.  
 $\therefore$  If we subtract 18 from 99999, then number will be divisible by 21.  
 $\therefore 99999 - 18 = 99981$   
Hence, 99981 is the required number.

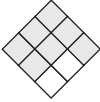
$$\begin{array}{r} 4761 \\ 21 \overline{) 99999} \\ \underline{-84} \phantom{00} \\ 159 \phantom{00} \\ \underline{-147} \phantom{00} \\ 129 \phantom{00} \\ \underline{-126} \phantom{00} \\ 39 \phantom{00} \\ \underline{-21} \phantom{00} \\ 18 \phantom{00} \end{array}$$

- f. First amount paid = ₹ 4500  
Amount paid for the next 12 months = ₹  $1345 \times 12$   
 $= ₹ 16140$   
Total amount paid = ₹  $4500 + ₹ 16140$   
 $= ₹ 20640$   
Hence, the fridge cost ₹ 20640.

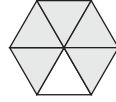
**Chapter 9 Fractions**

**EXERCISE 9A**

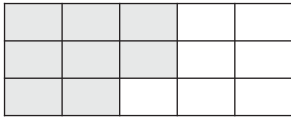
1. Colour to show the fractions.



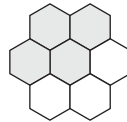
$\frac{7}{9}$  shaded



$\frac{5}{6}$  shaded



$\frac{8}{15}$  shaded



$\frac{4}{7}$  shaded

2. Write in numbers and words the fractions shaded.

a.  $\frac{3}{7}$ , three sevenths

b.  $\frac{3}{4}$ , three fourths

c.  $\frac{7}{8}$ , seven eights

d.  $\frac{3}{5}$ , three fifths

3. Fill in the blanks.

a.  $\frac{3}{10}$

b.  $\frac{7}{9}$

c. 5, 7 respectively

d. 13, 20 respectively

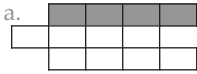
e. 10

f. 4

g. one ninth

h.  $\frac{1}{4}$ , fourth respectively

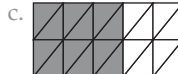
4. Colour the fractions, count and write.



$$\frac{1}{3} \text{ of } 12 = 4$$



$$\frac{1}{4} \text{ of } 8 = 2$$



$$\frac{3}{5} \text{ of } 20 = 12$$



$$\frac{2}{3} \text{ of } 15 = 10$$

5. Tick the correctly shaded fractions.

a. incorrect      b. 3      c. 3      d. 3

### EXERCISE-9B

1. Ring the like fractions.

a.  $\frac{4}{13}$   $\left(\frac{2}{15}\right)$   $\left(\frac{9}{15}\right)$   $\left(\frac{13}{15}\right)$

b.  $\left(\frac{5}{9}\right)$   $\left(\frac{8}{9}\right)$   $\left(\frac{7}{9}\right)$   $\left(\frac{6}{9}\right)$

c.  $\left(\frac{1}{10}\right)$   $\frac{10}{12}$   $\left(\frac{9}{10}\right)$   $\left(\frac{7}{10}\right)$

d.  $\left(\frac{1}{6}\right)$   $\left(\frac{2}{6}\right)$   $\frac{2}{3}$   $\frac{2}{7}$

2. Colour the proper fraction green and the improper fractions red.

Proper fractions : b, d, f

Improper fractions : a, c, e

3. Tick the mixed fractions.

a.  $\frac{5}{9}$      $8\frac{4}{7}$  ✓     $3\frac{6}{13}$  ✓     $\frac{2}{7}$

b.  $2\frac{3}{5}$  ✓     $\frac{1}{8}$      $7\frac{3}{6}$  ✓

c.  $\frac{7}{10}$      $6\frac{5}{12}$  ✓     $\frac{8}{8}$      $2\frac{8}{9}$  ✓

4. Write the integral part and the fractional of each fraction.

a.  $4\frac{3}{4}$

b.  $3\frac{2}{7}$

c.  $7\frac{5}{9}$

d.  $6\frac{1}{3}$

e.  $10\frac{7}{12}$

f.  $12\frac{2}{5}$

5. Change into mixed fraction:

a.  $Q=2, R=1, \frac{5}{2} = 2\frac{1}{2}$

b.  $Q=1, R=1, \frac{4}{3} = 1\frac{1}{3}$

c.  $Q=2, R=1, \frac{11}{5} = 2\frac{1}{5}$

d.  $Q=2, R=3, \frac{11}{4} = 2\frac{3}{4}$

e.  $Q=3, R=5, \frac{23}{6} = 3\frac{5}{6}$

6. Change into improper fraction:

a.  $\frac{19}{8}$

b.  $\frac{3 \times 2 + 1}{2} = \frac{7}{2}$

c.  $\frac{3 \times 3 + 2}{3} = \frac{11}{3}$

7. Write in the form of fraction:

a.  $4 \overline{) \begin{array}{r} 2 \\ 9 \\ -8 \\ \hline 1 \end{array}}$

b.  $2 \overline{) \begin{array}{r} 3 \\ 7 \\ -6 \\ \hline 1 \end{array}}$

c.  $9 \overline{) \begin{array}{r} 3 \\ 28 \\ -27 \\ \hline 1 \end{array}}$

d.  $5 \overline{) \begin{array}{r} 3 \\ 16 \\ -15 \\ \hline 1 \end{array}}$

e.  $8 \overline{) \begin{array}{r} 3 \\ 29 \\ -24 \\ \hline 5 \end{array}}$

$\therefore 9 \div 4 = 2\frac{1}{4}$

$\therefore 7 \div 2 = 3\frac{1}{2}$

$\therefore 28 \div 9 = 3\frac{1}{9}$

$\therefore 16 \div 5 = 3\frac{1}{5}$

$\therefore 28 \div 8 = 3\frac{1}{4}$

8. Write in the form of division:

a.  $\frac{6}{19} = 6 \div 19$

b.  $\frac{5}{9} = 5 \div 9$

c.  $4\frac{3}{5} = \frac{4 \times 5 + 3}{5} = \frac{20 + 3}{5} = \frac{23}{5} = 23 \div 5$

$$d. 6\frac{1}{8} = \frac{6 \times 8 + 1}{8} = \frac{48 + 1}{8} = \frac{49}{8} = 49 \div 8$$

$$e. 2\frac{5}{6} = \frac{2 \times 6 + 5}{6} = \frac{12 + 5}{6} = \frac{17}{6} = 17 \div 6$$

**EXERCISE 10A**

1. Tick the equivalent fractions.

a. (i)  $\frac{1}{3}$       (ii)  $\frac{3}{6} = \frac{1}{2}$       (iii)  $\frac{3}{9} = \frac{1}{3}$

∴ (i) and (iii) are equivalent fractions.

b. (i)  $\frac{5}{10} = \frac{1}{2}$       (ii)  $\frac{2}{6} = \frac{1}{3}$       (iii)  $\frac{2}{4} = \frac{1}{2}$

∴ (i) and (iii) are equivalent fractions.

c. (i)  $\frac{4}{16} = \frac{1}{4}$       (ii)  $\frac{1}{4}$       (iii)  $\frac{2}{8} = \frac{1}{4}$

∴ (i), (ii) and (iii) are equivalent fractions.

d. (i)  $\frac{1}{4}$       (ii)  $\frac{2}{8} = \frac{1}{4}$       (iii)  $\frac{3}{8}$

∴ (i) and (iii) are equivalent fractions.

2. Fill in the blanks.

a.  $\frac{1}{4} = \frac{3 \times 4}{4 \times 4} = \frac{12}{16}$

b.  $\frac{1}{7} = \frac{1 \times 3}{7 \times 3} = \frac{3}{21}$

c.  $\frac{1}{3} = \frac{1 \times 3}{3 \times 3} = \frac{13}{9}$

d.  $\frac{1}{2} = \frac{1 \times 5}{2 \times 5} = \frac{5}{10}$

e.  $\frac{2}{5} = \frac{2 \times 4}{5 \times 4} = \frac{8}{20}$

f.  $\frac{4}{7} = \frac{4 \times 11}{7 \times 11} = \frac{44}{77}$

g.  $\frac{3}{5} = \frac{3 \times 9}{5 \times 9} = \frac{27}{45}$

h.  $\frac{6}{7} = \frac{6 \times 6}{7 \times 6} = \frac{36}{42}$

i.  $\frac{9}{11} = \frac{9 \times 7}{11 \times 7} = \frac{63}{77}$

j.  $\frac{5}{9} = \frac{5 \times 7}{9 \times 7} = \frac{35}{63}$

3. Write the equivalent fraction with denominator 30:

a.  $\frac{2}{3} = \frac{2 \times 10}{2 \times 10} = \frac{20}{30}$

b.  $\frac{3}{10} = \frac{3 \times 3}{10 \times 3} = \frac{9}{30}$

c.  $\frac{4}{5} = \frac{4 \times 6}{5 \times 6} = \frac{24}{30}$

d.  $\frac{11}{15} = \frac{11 \times 2}{15 \times 2} = \frac{22}{30}$

4. Write the equivalent fraction with numerator 36:

a.  $\frac{2}{9} = \frac{2 \times 18}{9 \times 18} = \frac{36}{162}$

b.  $\frac{1}{3} = \frac{1 \times 36}{3 \times 36} = \frac{36}{108}$

c.  $\frac{3}{4} = \frac{3 \times 12}{4 \times 12} = \frac{36}{48}$

d.  $\frac{12}{17} = \frac{12 \times 3}{17 \times 3} = \frac{36}{51}$

5. Use multiplication to write two equivalent fractions of:

a.  $\frac{2}{9} = \frac{2 \times 2}{9 \times 2} = \frac{4}{18}$  ;  $\frac{2}{9} = \frac{2 \times 3}{9 \times 3} = \frac{6}{27}$       b.  $\frac{3}{7} = \frac{3 \times 2}{7 \times 2} = \frac{6}{14}$  ;  $\frac{3}{7} = \frac{3 \times 3}{7 \times 3} = \frac{9}{21}$   
 c.  $\frac{7}{10} = \frac{7 \times 2}{10 \times 2} = \frac{14}{20}$  ;  $\frac{7}{10} = \frac{7 \times 3}{10 \times 3} = \frac{21}{30}$       d.  $\frac{4}{9} = \frac{4 \times 2}{9 \times 2} = \frac{8}{18}$  ;  $\frac{4}{9} = \frac{4 \times 3}{9 \times 3} = \frac{12}{27}$

6. Write two equivalent fractions using division:

a.  $\frac{27}{45} = \frac{27 \div 3}{45 \div 3} = \frac{9}{15}$  ;  $\frac{27}{45} = \frac{27 \div 9}{45 \div 9} = \frac{3}{5}$       b.  $\frac{24}{36} = \frac{24 \div 2}{36 \div 2} = \frac{12}{18}$  ;  $\frac{24}{36} = \frac{24 \div 3}{36 \div 3} = \frac{8}{12}$   
 c.  $\frac{20}{40} = \frac{20 \div 2}{40 \div 2} = \frac{10}{20}$  ;  $\frac{20}{40} = \frac{20 \div 5}{40 \div 5} = \frac{4}{8}$       d.  $\frac{12}{18} = \frac{12 \div 2}{18 \div 2} = \frac{6}{9}$  ;  $\frac{12}{18} = \frac{12 \div 3}{18 \div 3} = \frac{4}{6}$

7. Change to like fractions.

a.  $\frac{2}{3} = \frac{2 \times 4}{3 \times 4} = \frac{8}{12}$  ;  $\frac{3}{4} = \frac{3 \times 3}{4 \times 3} = \frac{9}{12}$       b.  $\frac{1}{5} = \frac{1 \times 4}{5 \times 4} = \frac{4}{20}$  ;  $\frac{1}{4} = \frac{1 \times 5}{4 \times 5} = \frac{5}{20}$   
 c.  $\frac{3}{10} = \frac{3 \times 13}{10 \times 13} = \frac{39}{130}$  ;  $\frac{4}{13} = \frac{4 \times 10}{13 \times 10} = \frac{40}{130}$       d.  $\frac{5}{14} = \frac{5 \times 1}{14 \times 1} = \frac{5}{14}$  ;  $\frac{4}{7} = \frac{4 \times 2}{7 \times 2} = \frac{8}{14}$   
 e.  $\frac{5}{12} = \frac{5 \times 2}{12 \times 2} = \frac{10}{24}$  ;  $\frac{3}{8} = \frac{3 \times 3}{8 \times 3} = \frac{9}{24}$       f.  $\frac{5}{7} = \frac{5 \times 9}{7 \times 9} = \frac{45}{63}$  ;  $\frac{7}{9} = \frac{7 \times 7}{9 \times 7} = \frac{49}{63}$

8. True or false? Cross-multiply and check.

a.  $\frac{3}{7} \begin{matrix} \swarrow & \searrow \\ \nearrow & \nwarrow \end{matrix} \frac{9}{21}$   
 $3 \times 21 = 63$  ;  $7 \times 9 = 63$   
 Products are equal.  
 $\therefore \frac{3}{7} = \frac{9}{21}$  is true.

b.  $\frac{2}{5} \begin{matrix} \swarrow & \searrow \\ \nearrow & \nwarrow \end{matrix} \frac{4}{10}$   
 $2 \times 10 = 20$  ;  $5 \times 4 = 20$   
 Products are equal.  
 $\therefore \frac{2}{5} = \frac{4}{10}$  is true.

c.  $\frac{8}{9} \begin{matrix} \swarrow & \searrow \\ \nearrow & \nwarrow \end{matrix} \frac{3}{4}$   
 $8 \times 4 = 32$  ;  $9 \times 3 = 27$   
 Products are not equal.  
 $\therefore \frac{8}{9} = \frac{3}{4}$  is false.

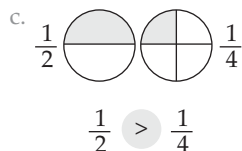
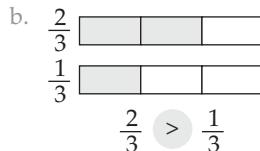
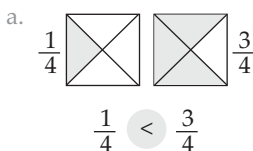
d.  $\frac{4}{5} \begin{matrix} \swarrow & \searrow \\ \nearrow & \nwarrow \end{matrix} \frac{14}{15}$   
 $4 \times 15 = 60$  ;  $5 \times 14 = 70$   
 Products are not equal.  
 $\therefore \frac{4}{5} = \frac{14}{15}$  is false.

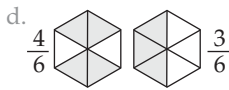
e.  $\frac{14}{21} \begin{matrix} \swarrow & \searrow \\ \nearrow & \nwarrow \end{matrix} \frac{2}{3}$   
 $14 \times 3 = 42$  ;  $21 \times 2 = 42$   
 Products are equal.  
 $\therefore \frac{14}{21} = \frac{2}{3}$  is true.

f.  $\frac{12}{18} \begin{matrix} \swarrow & \searrow \\ \nearrow & \nwarrow \end{matrix} \frac{2}{3}$   
 $12 \times 3 = 36$  ;  $18 \times 2 = 36$   
 Products are equal.  
 $\therefore \frac{12}{18} = \frac{2}{3}$  is true.

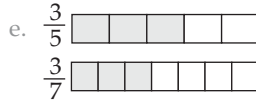
### EXERCISE 10B

1. Compare the fractions by shading and fill in  $<$ ,  $>$  or  $=$ .

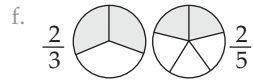




$$\frac{4}{6} > \frac{3}{6}$$



$$\frac{3}{7} < \frac{3}{5}$$



$$\frac{2}{3} > \frac{2}{5}$$

Fill in with  $<$ ,  $>$  or  $=$ .

2. a.  $\frac{4}{7} > \frac{3}{7}$     b.  $\frac{2}{9} < \frac{4}{9}$     c.  $\frac{1}{8} < \frac{3}{8}$     d.  $\frac{8}{11} > \frac{5}{11}$     e.  $\frac{11}{12} > \frac{7}{12}$

3. a.  $\frac{2}{5} > \frac{2}{7}$     b.  $\frac{1}{9} < \frac{1}{3}$     c.  $\frac{5}{9} > \frac{5}{13}$     d.  $\frac{7}{15} < \frac{7}{10}$     e.  $\frac{14}{17} > \frac{14}{19}$

4. a.  $\frac{6}{15} < \frac{7}{16}$

$$6 \times 16 = 96 ; 15 \times 7 = 105$$

$$\text{As } 96 < 105, \frac{6}{15} < \frac{7}{16}$$

b.  $\frac{7}{9} < \frac{8}{11}$

$$7 \times 11 = 77 ; 9 \times 8 = 72$$

$$\text{As } 77 < 72, \frac{7}{9} < \frac{8}{11}$$

c.  $\frac{2}{4} < \frac{3}{6}$

$$2 \times 6 = 12 ; 4 \times 3 = 12$$

$$\text{As } 12 < 12, \frac{2}{4} = \frac{3}{6}$$

b.  $\frac{4}{7} < \frac{5}{8}$

$$4 \times 8 = 32 ; 7 \times 5 = 35$$

$$\text{As } 32 < 35, \frac{4}{7} < \frac{5}{8}$$

e.  $\frac{5}{10} < \frac{10}{20}$

$$5 \times 20 = 100 ; 10 \times 10 = 100$$

$$\text{As } 100 = 100, \frac{5}{10} = \frac{10}{20}$$

5. a.  $1\frac{2}{9} = \frac{1 \times 9 + 2}{9} = \frac{11}{9}$

We now compare  $\frac{11}{9}$  and  $\frac{11}{9}$ .

$$\frac{11}{9} = \frac{11}{9}$$

$$\therefore \frac{11}{9} = 1\frac{2}{9}$$

b.  $1\frac{2}{3} = \frac{1 \times 3 + 2}{3} = \frac{5}{3}$

$$2\frac{2}{3} = \frac{2 \times 3 + 2}{3} = \frac{8}{3}$$

We now compare  $\frac{5}{3}$  and  $\frac{8}{3}$ .

$$\frac{5}{3} < \frac{8}{3}$$

$$\therefore 1\frac{2}{3} < 2\frac{2}{3}$$

$$c. 3\frac{3}{5} = \frac{3 \times 5 + 3}{5} = \frac{18}{5}$$

$$3\frac{4}{7} = \frac{3 \times 7 + 4}{7} = \frac{25}{7}$$

We now compare  $\frac{18}{5}$  and  $\frac{25}{7}$ .

$$\frac{18}{5} \begin{array}{c} \swarrow \searrow \\ \searrow \swarrow \end{array} \frac{25}{7}$$

$$18 \times 7 = 126, 5 \times 25 = 125$$

$$\text{As } 126 > 125, \frac{18}{5} > \frac{25}{7}$$

$$\therefore 3\frac{3}{5} < 3\frac{4}{7}$$

$$e. 8\frac{7}{9} = \frac{8 \times 9 + 7}{9} = \frac{79}{9}$$

$$8\frac{4}{9} = \frac{8 \times 9 + 4}{9} = \frac{76}{9}$$

We now compare  $\frac{79}{9}$  and  $\frac{76}{9}$ .

$$\frac{79}{9} < \frac{76}{9}$$

$$\therefore 8\frac{7}{9} < 8\frac{4}{9}$$

$$g. 2\frac{7}{8} = \frac{2 \times 8 + 7}{8} = \frac{23}{8}$$

$$2\frac{9}{10} = \frac{2 \times 10 + 9}{10} = \frac{29}{10}$$

We now compare  $\frac{23}{8}$  and  $\frac{29}{10}$ .

$$\frac{23}{8} < \frac{29}{10}$$

$$\therefore 2\frac{7}{8} < 2\frac{9}{10}$$

$$i. 9\frac{3}{4} = \frac{9 \times 4 + 3}{4} = \frac{39}{4}$$

$$9\frac{6}{8} = \frac{9 \times 8 + 6}{8} = \frac{78}{8}$$

We now compare  $\frac{39}{4}$  and  $\frac{78}{8}$ .

$$\frac{39}{4} \begin{array}{c} \swarrow \searrow \\ \searrow \swarrow \end{array} \frac{78}{8}$$

$$39 \times 8 = 312, 4 \times 78 = 312$$

$$\text{As } 312 > 312, \frac{39}{4} = \frac{78}{8}$$

$$\therefore 9\frac{3}{4} = 9\frac{6}{8}$$

$$d. 4\frac{1}{2} = \frac{4 \times 2 + 1}{2} = \frac{9}{2}$$

$$3\frac{1}{3} = \frac{3 \times 3 + 1}{3} = \frac{10}{3}$$

We now compare  $\frac{9}{2}$  and  $\frac{10}{3}$ .

$$\frac{9}{2} \begin{array}{c} \swarrow \searrow \\ \searrow \swarrow \end{array} \frac{10}{3}$$

$$9 \times 3 = 27, 2 \times 10 = 20$$

$$\text{As } 27 > 20, \frac{9}{2} > \frac{10}{3}$$

$$\therefore 4\frac{1}{2} > 3\frac{1}{3}$$

$$f. 1\frac{1}{6} = \frac{1 \times 6 + 1}{6} = \frac{7}{6}$$

We now compare  $\frac{7}{6}$  and  $\frac{8}{7}$ .

$$\frac{7}{6} \begin{array}{c} \swarrow \searrow \\ \searrow \swarrow \end{array} \frac{8}{7}$$

$$7 \times 7 = 49, 6 \times 8 = 48$$

$$\text{As } 49 > 48, \frac{7}{6} > \frac{8}{7}$$

$$\therefore 1\frac{1}{6} > \frac{8}{7}$$

$$h. 5\frac{1}{3} = \frac{5 \times 3 + 1}{3} = \frac{16}{3}$$

We now compare  $\frac{16}{3}$  and  $\frac{19}{3}$ .

$$\frac{16}{3} < \frac{19}{3}$$

$$\therefore 5\frac{1}{3} < \frac{19}{3}$$

$$j. 5\frac{1}{6} = \frac{3 \times 6 + 1}{6} = \frac{19}{6}$$

We now compare  $\frac{13}{6}$  and  $\frac{19}{6}$ .

$$\frac{13}{6} < \frac{19}{6}$$

$$\therefore \frac{13}{6} < 3\frac{1}{6}$$

6. Ring the greatest and tick the smallest.

a.  $\left(\frac{8}{7}\right) \frac{2}{7} \checkmark$     b.  $\left(\frac{13}{10}\right) \frac{2}{10} \checkmark$     c.  $\left(\frac{2}{3}\right) \frac{2}{11} \checkmark$     d.  $\left(2\frac{2}{3}\right) \frac{2}{5} \checkmark$     e.  $\left(6\frac{4}{5}\right) 6\frac{4}{13} \checkmark$     f.  $\left(7\frac{3}{8}\right) 2\frac{5}{8} \checkmark$

**EXERCISE 10C**

1. Reduce to lowest terms.

a.  $\frac{2}{10} = \frac{2 \div 2}{10 \div 2} = \frac{1}{5}$     b.  $\frac{4}{8} = \frac{4 \div 4}{8 \div 4} = \frac{1}{2}$     c.  $\frac{3}{6} = \frac{3 \div 3}{6 \div 3} = \frac{1}{2}$   
 d.  $\frac{9}{33} = \frac{9 \div 3}{33 \div 3} = \frac{3}{11}$     e.  $\frac{6}{8} = \frac{6 \div 2}{8 \div 2} = \frac{3}{4}$     f.  $\frac{12}{28} = \frac{12 \div 4}{28 \div 4} = \frac{3}{7}$   
 g.  $\frac{20}{16} = \frac{20 \div 4}{16 \div 4} = \frac{5}{4}$     h.  $\frac{12}{8} = \frac{12 \div 4}{8 \div 4} = \frac{3}{2}$     i.  $\frac{35}{49} = \frac{35 \div 7}{49 \div 7} = \frac{5}{7}$   
 j.  $\frac{14}{35} = \frac{14 \div 7}{35 \div 7} = \frac{2}{5}$




2. Which of these are in lowest terms?

b, c, d, f, g are in lowest terms.

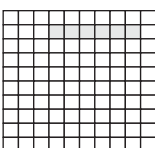
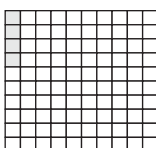
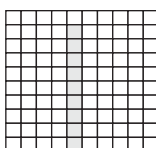
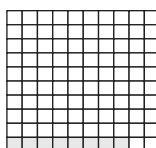
**Chapter 11    Decimal Fractions**

**EXERCISE 11A**

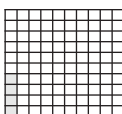
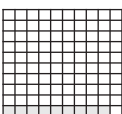
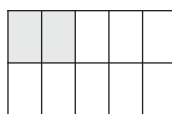
1. Write the shaded and unshaded parts as common fractions and decimal fractions.

b. 	c. 	d. 	
Shaded $\frac{8}{10} = 0.8$	Unshaded $\frac{2}{10} = 0.2$	Shaded $\frac{4}{10} = 0.4$	Unshaded $\frac{6}{10} = 0.6$
Shaded $\frac{1}{10} = 0.1$	Unshaded $\frac{9}{10} = 0.9$		

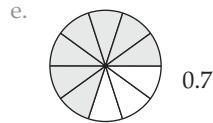
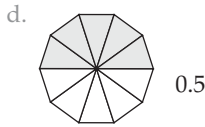
2. What part is coloured? Write as common fractions and decimals.

a. 	b. 	c. 	d. 
$\frac{6}{100} = 0.06$	$\frac{4}{100} = 0.04$	$\frac{9}{100} = 0.09$	$\frac{8}{100} = 0.08$

3. Colour to show the decimals.

a.  0.04	b.  0.09	c.  0.2
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4. Write these as decimals.

a.  $\frac{4}{10} = 0.4$

b.  $\frac{2}{10} = 0.2$

c.  $\frac{6}{10} = 0.6$

b.  $\frac{8}{10} = 0.8$

e.  $\frac{5}{100} = 0.05$

f.  $\frac{4}{100} = 0.04$

c.  $\frac{9}{100} = 0.09$

h.  $\frac{7}{1000} = 0.007$

i.  $\frac{9}{1000} = 0.009$

5. Write these as common fractions and in words.

a.  $.3 = \frac{3}{10}$ , point three

b.  $.3 = \frac{4}{10}$ , point four

c.  $.7 = \frac{7}{10}$ , point seven

d.  $.7 = \frac{4}{100}$ , point zero four

e.  $.08 = \frac{8}{100}$ , point zero eight

f.  $.08 = \frac{3}{100}$ , point zero three

g.  $.09 = \frac{9}{100}$ , point zero nine

h.  $.09 = \frac{4}{1000}$ , point zero zero four

i.  $.005 = \frac{5}{1000}$ , point zero zero five

### EXERCISE 11 B

1. Write as common fractions.

a.  $0.54 = \frac{54}{100}$

b.  $0.832 = \frac{832}{1000}$

c.  $0.902 = \frac{902}{1000}$

d.  $0.820 = \frac{820}{1000}$

c.  $1.23 = \frac{123}{100}$

f.  $4.560 = \frac{4560}{1000}$

g.  $14.08 = \frac{1408}{100}$

h.  $67.14 = \frac{6714}{100}$

2. Write as decimal fractions.

a.  $\frac{25}{10} = 2.5$

b.  $\frac{38}{10} = 2.5$

c.  $\frac{303}{100} = 3.03$

d.  $\frac{78}{100} = 0.78$

c.  $\frac{543}{10} = 54.3$

f.  $\frac{286}{1000} = 54.3$

g.  $\frac{3621}{1000} = 3.621$

h.  $\frac{80}{1000} = 0.080$

i.  $7\frac{3}{10} = \frac{7 \times 10 + 3}{10} = \frac{70 + 3}{10}$   
 $= \frac{73}{10} = 7.3$

j.  $15\frac{22}{100} = \frac{15 \times 100 + 22}{100} = \frac{1500 + 22}{100}$   
 $= \frac{1522}{100} = 15.22$

k.  $3\frac{75}{1000} = \frac{3 \times 1000 + 75}{1000} = \frac{3000 + 75}{1000}$   
 $= \frac{3075}{1000} = 3.075$

l.  $35\frac{600}{1000} = \frac{35 \times 1000 + 600}{1000} = \frac{3500 + 600}{1000}$   
 $= \frac{35600}{1000} = 35.6$

3. Fill in.

Fraction	Decimal	Read as
a. $\frac{27}{10}$	2.7	two point seven
b. $\frac{703}{100}$	7.03	seven point zero three
c. $\frac{809}{100}$	8.09	eight point zero nine
d. $\frac{23144}{1000}$	23.144	twenty three point one forty four
e. $3\frac{11}{1000}$	$3 \times \frac{1000}{1000} + \frac{11}{1000} = \frac{3000 + 11}{1000}$ $= \frac{3011}{1000} = 3.011$	three point zero one one

4. Write as decimals and common fractions.

- a. 2.07,  $\frac{207}{100}$       b. 9.009,  $\frac{9009}{1000}$       c. 3.205,  $\frac{3205}{1000}$   
 d. 20.123,  $\frac{20123}{1000}$       e. 100.24,  $\frac{10024}{100}$       f. 10.061,  $\frac{10061}{1000}$

5. Write the place values. For the decimal parts, write the values as common fractions.

- a. 4      b.  $\frac{4}{10}$       c.  $\frac{4}{100}$       d.  $\frac{4}{1000}$   
 e. 5,  $\frac{3}{10}$ ,  $\frac{7}{100}$       f. 10, 7,  $\frac{3}{10}$ ,  $\frac{0}{100}$ ,  $\frac{2}{1000}$       g. 40, 7,  $\frac{2}{100}$ ,  $\frac{5}{10}$   
 h. 800, 20, 5,  $\frac{7}{10}$ ,  $\frac{9}{100}$       i. 80, 6,  $\frac{4}{10}$ ,  $\frac{2}{100}$ ,  $\frac{7}{1000}$

6. Fill in the blanks.

- a.  $0.34 = \frac{3}{10} + \frac{4}{100}$       b.  $3.05 = 3 + \frac{0}{10} + \frac{5}{100}$       c.  $.258 = \frac{2}{10} + \frac{5}{100} + \frac{8}{1000}$   
 d.  $17.936 = 10 + 7 + \frac{9}{10} + \frac{3}{100} + \frac{6}{1000}$       e.  $58.674 = 50 + 8 + \frac{6}{10} + \frac{7}{100} + \frac{4}{1000}$

7. Write in the expanded form. For the decimal parts, write the values as common fractions.

- a.  $0.76 = \frac{3}{10} + \frac{6}{100}$       b.  $0.039 = \frac{0}{10} + \frac{3}{100} + \frac{9}{1000}$       c.  $16.4 = 10 + 6 + \frac{4}{10}$   
 d.  $39.405 = 30 + 9 + \frac{4}{10} + \frac{0}{100} + \frac{5}{1000}$       e.  $27.345 = 20 + 7 + \frac{3}{10} + \frac{4}{100} + \frac{5}{1000}$   
 f.  $307.703 = 300 + 0 + 7 + \frac{7}{10} + \frac{0}{100} + \frac{3}{1000}$   
 g.  $678.876 = 600 + 70 + 8 + \frac{8}{10} + \frac{7}{100} + \frac{6}{1000}$

8. Fill in with the short form (decimal form).

a.  $\frac{3}{10} + \frac{7}{100} = 0.3 + 0.07$

$= 0.37$

b.  $\frac{1}{10} + \frac{4}{100} + \frac{6}{1000} = 0.1 + 0.04 + 0.006$

$= 0.146$

c.  $\frac{6}{10} + \frac{0}{100} + \frac{9}{1000} = 0.6 + 0 + 0.009$

$= 0.609$

d.  $7 + \frac{4}{10} + \frac{2}{100}$

$= 7 + 0.4 + 0.02$

$= 7.42$

e.  $200 + 50 + 2\frac{6}{10} + \frac{3}{100} + \frac{4}{1000} = 200 + 50 + 2 + 0 + 0.03 + 0.004$

$= 252.034$

9. Compare and fill in with  $>$ ,  $<$  or  $=$ .

a. Ones : 0 = 0

Tenths : 4 > 0

So, 0.4 > 0.004

b. Ones : 0 = 0

Tenths : 5 > 0

So, 0.5 > 0.09

c. Ones : 1 > 0

So, 1 > .999

d. Ones : 0 = 0

Tenths : 4 > 3

So, 0.47 > 0.39

e. Ones : 0 = 0

Tenths : 6 = 6

Hundredths : 0 = 0

So, 0.6 = 0.60

f. Ones : 5 = 5

Tenths : 3 < 4

So, 5.32 < 5.41

g. Ones : 0 < 5

So, 0.54 < 5.4

h. Ones : 0 = 0

Tenths : 7 = 7

Hundredths : 7 = 7

Thousandths : 0 = 0

i. Ones : 0 = 0

Tenths : 8 = 8

Hundredths : 3 > 0

So, 0.83 > 0.803

j. Ones : 0 = 0

Tenths : 1 = 1

Hundredths : 9 = 9

Thousandths : 7 = 7

So, .197 = 0.197

k. Ones : 2 = 2

Tenths : 0 = 0

Hundredths : 0 = 0

Thousandths : 1 > 0

So, 2.001 > 2

l. Hundreds : 0 < 2

So, 25.63 < 256.063

10. Write in ascending order.

a. Equivalent decimal numbers:

0.900, .990, .090, .099, .999

In ascending order :

.090, .099, 0.900, .990, .999

or .09, .099, 0.9, .99, .999

b. Equivalent decimal numbers:

0.710, .071, 7.100, 1.700, 1.071

In ascending order :

.071, 0.710, 1.071, 1.700, 7.100

or .071, 0.71, 1.071, 1.7, 7.1

- c. Equivalent decimal numbers:  
 2.080, 2.800, 0.028, 0.280, 20.800  
 In ascending order :  
 0.028, 0.280, 2.080, 2.800, 20.800  
 or 0.028, 0.28, 2.08, 2.80, 20.8
- d. Equivalent decimal numbers:  
 1.052, 2.530, 1.253, 2.352, 1.500  
 In ascending order :  
 1.052, 1.253, 1.500, 2.352, 2.530  
 or 1.052, 1.253, 1.500, 2.352, 2.53
- e. Equivalent decimal numbers:  
 14.006, 14.061, 14.001, 14.060, 14.016  
 In ascending order :  
 14.001, 14.006, 14.016, 14.060, 14.061  
 or 14.001, 14.006, 14.016, 14.06, 14.061

**11. Write in descending order.**

- a. Equivalent decimal numbers:  
 .001, .009, .100, .900, .010  
 In descending order :  
 .900, .100, .010, .009, .001  
 or .9, .1, .01, .009, .001
- b. Equivalent decimal numbers:  
 .340, .134, .104, .034, .304  
 In descending order :  
 .340, .304, .134, .104, .034  
 or .34, .304, .134, .104, .034
- c. Equivalent decimal numbers:  
 0.550, 0.055, 5.550, 0.505, 0.555  
 In descending order :  
 5.550, 0.555, 0.550, 0.505, 0.055  
 or 5.55, 0.555, 0.55, 0.505, 0.055
- d. Equivalent decimal numbers:  
 1.210, 12.100, 2.112, 2.120, 2.102  
 In descending order :  
 12.100, 2.120, 2.112, 2.102, 1.210  
 or 12.1, 2.12, 2.112, 2.102, 1.21

- e. Equivalent decimal numbers:  
 25.256, 25.252, 25.025, 25.205, 25.625  
 In descending order :  
 25.625, 25.256, 25.252, 25.205, 25.025

12. Fill in the blanks.

- a. 1 paise = ₹  $\frac{1}{100}$   
 90 paise = ₹  $\frac{90}{100}$  = ₹ 0.90
- b. 1 paise = ₹  $\frac{1}{100}$   
 75 paise = ₹  $\frac{75}{100}$  = ₹ 0.75
- c. 1 paise = ₹  $\frac{1}{100}$   
 475 paise = ₹  $\frac{475}{100}$  = ₹ 4.75
- d. 1 paise = ₹  $\frac{1}{100}$   
 650 paise = ₹  $\frac{650}{100}$  = ₹ 6.50
- e. ₹ 15 and 20 paise = ₹ 15 + ₹  $\frac{20}{100}$  = ₹ 15 + ₹ 0.20  
 = ₹ 15.20
- f. ₹ 8 and 50 paise = ₹ 8 + ₹  $\frac{50}{100}$  = ₹ 8 + ₹ 0.50  
 = ₹ 8.50

**EXERCISE 11C**

Add.

1. a. 
$$\begin{array}{r} 0.2 \\ + 0.2 \\ \hline 0.4 \end{array}$$
 b. 
$$\begin{array}{r} 0.6 \\ + 0.5 \\ \hline 1.1 \end{array}$$
 c. 
$$\begin{array}{r} 0.5 \\ + 0.9 \\ \hline 1.4 \end{array}$$
 d. 
$$\begin{array}{r} 2.5 \\ + 0.6 \\ \hline 3.1 \end{array}$$
 e. 
$$\begin{array}{r} 1.9 \\ + 5.8 \\ \hline 7.7 \end{array}$$
2. a. 
$$\begin{array}{r} 0.45 \\ + 0.53 \\ \hline 0.98 \end{array}$$
 b. 
$$\begin{array}{r} 2.25 \\ + 0.68 \\ \hline 2.93 \end{array}$$
 c. 
$$\begin{array}{r} 2.55 \\ + 3.88 \\ \hline 6.43 \end{array}$$
 d. 
$$\begin{array}{r} 20.74 \\ + 3.74 \\ \hline 24.48 \end{array}$$
 e. 
$$\begin{array}{r} 28.67 \\ + 43.33 \\ \hline 72.00 \end{array}$$
3. a. 
$$\begin{array}{r} 0.772 \\ + 0.364 \\ \hline 1.137 \end{array}$$
 b. 
$$\begin{array}{r} 2.562 \\ + 0.465 \\ \hline 3.027 \end{array}$$
 c. 
$$\begin{array}{r} 64.473 \\ + 68.874 \\ \hline 133.347 \end{array}$$
 d. 
$$\begin{array}{r} 357.063 \\ + 263.987 \\ \hline 621.050 \end{array}$$
4. a. 
$$\begin{array}{r} 25.001 \\ + 78.020 \\ + 56.304 \\ + 49.785 \\ \hline 209.110 \end{array}$$
 b. 
$$\begin{array}{r} 0.843 \\ + 15.952 \\ + 1.061 \\ + 0.170 \\ \hline 18.026 \end{array}$$
 c. 
$$\begin{array}{r} 385.32 \\ + 793.007 \\ + 48.504 \\ + 56.999 \\ \hline 1283.830 \end{array}$$
 d. 
$$\begin{array}{r} 193.4 \\ + 74.327 \\ + 286.15 \\ + 5.693 \\ \hline 559.570 \end{array}$$

5. Add together:

$$\begin{array}{r} \phantom{0} \overset{1}{1} \overset{1}{1} \\ 5.03 \\ 2.65 \\ + 12.371 \\ \hline 20.051 \end{array}$$

$$\begin{array}{r} \phantom{0} \overset{1}{1} \overset{1}{1} \\ 3.695 \\ 12.02 \\ 153.0 \\ + 23.1 \\ \hline 191.815 \end{array}$$

$$\begin{array}{r} \phantom{0} \phantom{0} \phantom{0} \phantom{0} \phantom{0} \\ .24 \\ 0.7 \\ + 2.008 \\ \hline 2.948 \end{array}$$

**EXERCISE 11D**

Subtract.

1. a. 
$$\begin{array}{r} 0.7 \\ - 0.3 \\ \hline 0.4 \end{array}$$

b. 
$$\begin{array}{r} 5.3 \\ - 3.2 \\ \hline 2.1 \end{array}$$

c. 
$$\begin{array}{r} \overset{1}{2}. \overset{13}{3} \\ - 0.7 \\ \hline 1.6 \end{array}$$

d. 
$$\begin{array}{r} \overset{1}{2}. \overset{14}{4} \\ - 0.7 \\ \hline 1.7 \end{array}$$

e. 
$$\begin{array}{r} \overset{2}{3}. \overset{10}{0} \\ - 2.5 \\ \hline 0.5 \end{array}$$

2. a. 
$$\begin{array}{r} \phantom{0} \overset{0}{7}. \overset{14}{14} \\ - 2.07 \\ \hline 5.07 \end{array}$$

b. 
$$\begin{array}{r} \phantom{0} \overset{4}{8}. \overset{13}{38} \\ - 0.54 \\ \hline 4.84 \end{array}$$

c. 
$$\begin{array}{r} \phantom{0} \overset{3}{64}. \overset{11}{23} \overset{13}{3} \\ - 42.28 \\ \hline 21.95 \end{array}$$

d. 
$$\begin{array}{r} \phantom{0} \overset{11}{52}. \overset{12}{30} \overset{10}{4} \\ - 48.79 \\ \hline 03.51 \end{array}$$

e. 
$$\begin{array}{r} \phantom{0} \overset{15}{36}. \overset{13}{43} \overset{13}{2} \\ - 9.56 \\ \hline 26.87 \end{array}$$

3. a. 
$$\begin{array}{r} \phantom{0} \overset{12}{33}. \overset{2}{2} \overset{12}{2} \overset{5}{12} \overset{18}{18} \\ - 26.319 \\ \hline 06.949 \end{array}$$

b. 
$$\begin{array}{r} \phantom{0} \overset{9}{20}. \overset{14}{5} \overset{10}{14} \overset{14}{14} \\ - 0.855 \\ \hline 19.659 \end{array}$$

c. 
$$\begin{array}{r} \phantom{0} \overset{9}{100}. \overset{9}{32} \overset{12}{9} \\ - 59.355 \\ \hline 40.974 \end{array}$$

d. 
$$\begin{array}{r} \phantom{0} \overset{11}{322}. \overset{11}{4} \overset{9}{10} \overset{10}{10} \\ - 299.475 \\ \hline 22.925 \end{array}$$

4. Find the difference between.

a. 
$$\begin{array}{r} \phantom{0} \overset{14}{15}. \overset{9}{0} \overset{10}{0} \overset{10}{10} \\ - 8.55 \\ \hline 6.45 \end{array}$$

b. 
$$\begin{array}{r} \phantom{0} \overset{12}{13}. \overset{0}{0} \overset{15}{15} \\ - 5.9 \\ \hline 7.6 \end{array}$$

c. 
$$\begin{array}{r} \phantom{0} \overset{9}{200}. \overset{9}{0} \overset{10}{10} \overset{10}{10} \\ - 175.25 \\ \hline 24.75 \end{array}$$

d. 
$$\begin{array}{r} \phantom{0} \overset{4}{35}. \overset{11}{12} \overset{3}{3} \\ - 34.321 \\ \hline 00.802 \end{array}$$

5. Work out in your notebook and fill in the blanks.

a. 
$$\begin{array}{r} \phantom{0} \overset{13}{5}. \overset{13}{3} \\ - 2.35 \\ \hline 3.18 \end{array}$$

b. 
$$\begin{array}{r} \phantom{0} \overset{9}{100}. \overset{9}{0} \overset{9}{10} \overset{10}{10} \\ - 96.456 \\ \hline 03.544 \end{array}$$

c. 
$$\begin{array}{r} \phantom{0} \overset{1}{200}. \overset{10}{0} \overset{5}{10} \overset{10}{10} \\ - 110.26 \\ \hline 090.34 \end{array}$$

$\therefore 2.35 + \boxed{3.18} = 5.53$

$\therefore \boxed{3.544} + 96.456 = 100$

$\therefore 110.26 + \boxed{90.34} = 200.6$

d. 
$$\begin{array}{r} \phantom{0} \overset{1}{60}. \overset{5}{5} \\ + 50.5 \\ \hline 111.0 \end{array}$$

e. 
$$\begin{array}{r} \phantom{0} \overset{17}{18}. \overset{12}{3} \overset{12}{12} \\ - 8.65 \\ \hline 9.67 \end{array}$$

f. 
$$\begin{array}{r} \phantom{0} 200.25 \\ + 132.00 \\ \hline 332.25 \end{array}$$

$\therefore \boxed{111} - 50.5 = 60.5$

$\therefore 18.32 - \boxed{9.67} = 8.65$

$\therefore \boxed{332.25} - 132 = 200.25$

**EXERCISE 12**

- Cost of 12 bananas = ₹ 36  
 Cost of 1 bananas = ₹  $36 \div 12 = ₹ 3$   
 Cost of 18 bananas = ₹  $3 \times 18 = ₹ 54$
- Cost of 4 bus tickets = ₹ 720  
 Cost of 10 bus tickets = ₹  $720 \div 4 = ₹ 180$   
 Cost of 10 bus tickets = ₹  $180 \times 10 = ₹ 1800$
- Cost of 5 l petrol = ₹ 250  
 Cost of 1 l petrol = ₹  $250 \div 5 = ₹ 50$   
 Cost of 20 l petrol = ₹  $50 \times 20$   
 = ₹ 1000
- Length of lace for 2 dresses = 4 m  
 Length of lace for 1 dresses =  $4 \text{ m} \div 2 = 2 \text{ m}$   
 Length of lace for 12 dresses =  $2 \text{ m} \times 12$   
 = 24 m
- Quantity of milk required for 4 people = 600 ml  
 Quantity of milk required for 1 people =  $600 \text{ ml} \div 4 = 150 \text{ ml}$   
 Quantity of milk required for 10 people =  $150 \text{ ml} \times 10$   
 = 1500 ml or 1 1/2 l
- 3 bowls weigh = 210 g  
 1 bowl weigh =  $210 \text{ g} \div 3 = 70 \text{ g}$   
 20 bowls weigh =  $70 \text{ g} \times 20$   
 = 1400 g or 1 kg 400 g
- 6 bags of sugar weigh = 120 kg  
 1 bag of sugar weigh =  $120 \text{ kg} \div 6 = 20 \text{ kg}$   
 9 bags of sugar weigh =  $20 \text{ kg} \times 9$   
 = 180 kg.
- Charges for 3 months = ₹ 1500  
 Charges for 1 month = ₹  $1500 \div 3 = ₹ 500$   
 Charges for 12 months = ₹  $500 \times 12$   
 = ₹ 6000
- Number of coolers made in 7 days = 3500  
 Number of coolers made in 1 day =  $3500 \div 7 = 500$   
 Number of coolers made in 30 days =  $500 \times 30$   
 = 15000 coolers

**PRACTICE SHEET-3**

1. Fill in.

- a. 18, 12, 15      b. Improper, mixed      c.  $7, \frac{1}{2}$       d.  $\frac{1}{3}$  and  $\frac{13}{3}$
- e.  $\frac{1}{2} = \frac{2 \times 2}{5 \times 2} = \frac{4}{10}$ ,  $\frac{5}{9} = \frac{5 \times 4}{9 \times 4} = \frac{20}{36}$ ,  $\frac{6}{11} = \frac{6 \times 5}{11 \times 5} = \frac{30}{55}$ ,  $\frac{7}{12} = \frac{7 \times 7}{12 \times 7} = \frac{49}{84}$
- f.  $\frac{10}{8} = \frac{10 \times 3}{8 \times 3} = \frac{30}{24}$ , True      g.  $\frac{3}{4} = \frac{3 \times 25}{4 \times 25} = \frac{75}{100}$ , True
- h.  $\frac{36}{60} = \frac{36 \div 12}{60 \div 12} = \frac{3}{5}$ ,  $\frac{25}{100} = \frac{25 \div 25}{100 \div 25} = \frac{1}{4}$       i. 20,  $\frac{1}{1000}$ ,  $\frac{7}{10}$ ,  $\frac{3}{100}$
- i.  $2.037 = 2 + \frac{0}{10} + \frac{3}{100} + \frac{7}{1000}$       k. 650 rupees 25 paise = ₹ 650 + ₹  $\frac{25}{100}$   
 $= ₹ 650 + ₹ 0.25$   
 $= ₹ 650.25$

l. 3.7, 0.04

2. Change:

- a. 
$$\begin{array}{r} 5 \overline{)12} \\ -10 \\ \hline 2 \end{array}$$
      
$$\begin{array}{r} 6 \\ 7 \overline{)48} \\ -42 \\ \hline 6 \end{array}$$
- b.  $4 \frac{3}{10} = \frac{4 \times 15 + 2}{15} = \frac{62}{15}$ ,  $7 \frac{3}{10} = \frac{7 \times 10 + 3}{10} = \frac{73}{10}$
- c.  $\frac{8}{9} = \frac{8 \times 8}{9 \times 8} = \frac{64}{72}$ ,  $\frac{7}{8} = \frac{7 \times 9}{8 \times 9} = \frac{63}{72}$
- $\therefore \frac{12}{5} = 2 \frac{2}{5}$        $\therefore \frac{48}{7} = 6 \frac{6}{7}$
- c.  $\frac{41}{100} = 0.41$ ,  $3 \frac{7}{10} = \frac{3 \times 10 + 7}{10} = \frac{37}{10} = 3.7$

Fill in with <, > or =.

- a.  $\frac{3}{13} < \frac{3}{11}$       b.  $\frac{4}{9} < \frac{5}{9}$       c.  $\frac{8}{12} > \frac{8}{15}$
- d.  $2 \frac{2}{9} = \frac{2 \times 9 + 2}{9} = \frac{20}{9}$ ,  $2 \frac{4}{9} = \frac{2 \times 9 + 4}{9} = \frac{22}{9}$       e.  $2 \frac{3}{10} = \frac{2 \times 10 + 2}{10} = \frac{23}{10}$   
 $\therefore \frac{20}{9} < \frac{22}{9}$        $\frac{23}{10} = \frac{23}{10}$   
 $\therefore 2 \frac{2}{9} < 2 \frac{4}{9}$

4. a. Tenths : 0 = 0      b. Tenths : 0 < 6      c. Tenths : 2 = 2  
 Hundredths : 4 = 4       $\therefore .060 < .060$       Hundredths : 3 = 3  
 Thousandths : 5 = 5      Thousandths : 0 < 1  
 $\therefore .045 = 0.045$        $\therefore .23 < .231$
- d. Tenths : 8 > 0      e. Ones : 1 = 1  
 $\therefore 0.8 > 0.08$       Tenths : 0 = 0  
 Hundredths : 9 > 0  
 $\therefore 1.09 > 1.009$



5. Arrange in ascending order.

a.  $\frac{9}{19}, \frac{9}{17}, \frac{9}{13}, \frac{9}{11}, \frac{9}{10}$     b.  $\frac{3}{15}, \frac{7}{15}, \frac{9}{15}, \frac{12}{15}, \frac{13}{15}$

c. 0.023, .032, .203, .230, 2.30

6. Find.

a.  $\frac{6}{11} + \frac{3}{11} = \frac{6+3}{11} = \frac{9}{11}$

b.  $\frac{3}{5} - \frac{2}{4} = \frac{3 \times 4 - 2 \times 5}{20} = \frac{12 - 10}{20} = \frac{2}{20} = \frac{1}{10}$

c.  $\frac{5}{12} - \frac{9}{12} + \frac{5}{12} = \frac{5-9+5}{12} = \frac{5+5-9}{12} = \frac{10-9}{12} = \frac{1}{12}$

d. 
$$\begin{array}{r} \overset{1}{2} \overset{1}{6} \overset{1}{5} \overset{1}{4} \overset{1}{2} \\ + 43.708 \\ \hline 70.250 \end{array}$$

e. 
$$\begin{array}{r} \overset{9}{7} \overset{10}{0} \overset{12}{2} \overset{9}{0} \overset{10}{0} \\ - 26.438 \\ \hline 43.862 \end{array}$$

7. a. Fraction of the paint used =  $1 - \frac{2}{5} = \frac{5-2}{5} = \frac{3}{5}$

b. Total weight =  $\left(\frac{7}{9} + \frac{3}{4}\right) \text{ kg} = \frac{7 \times 4 + 3 \times 9}{36} \text{ kg} = \frac{28 + 27}{36} \text{ kg}$   
 $= \frac{55}{36} \text{ kg} = 1 \frac{19}{36} \text{ kg}$

c. Cost of 5 l oil = ₹ 250  
 Cost of 1 l oil = ₹ 250 ÷ 5 = ₹ 50  
 Cost of 8 l oil = ₹ 50 × 8  
 = ₹ 400

## Chapter 13 Patterns

### EXERCISE 13

1. Write the rule and fill in the missing numbers in each.

a.  $\boxed{29} \quad \boxed{42} \quad \boxed{55} \quad \boxed{68} \quad \boxed{81} \quad \boxed{94}$     Rule Number = previous number + 13

b.  $\boxed{80} \quad \boxed{180} \quad \boxed{280} \quad \boxed{380} \quad \boxed{480} \quad \boxed{580}$     Rule Number = previous number + 100

c.  $\boxed{760} \quad \boxed{655} \quad \boxed{550} \quad \boxed{445} \quad \boxed{340} \quad \boxed{235}$     Rule Number = previous number - 105

2. Find the pattern in the differences of consecutive pairs and fill in the missing numbers.

a.  $1 \xrightarrow{+2} 3 \xrightarrow{+3} 6 \xrightarrow{+4} 10 \xrightarrow{+5} 15 \xrightarrow{+6} 21 \xrightarrow{+7} 28$

b.  $3 \xrightarrow{+6} 9 \xrightarrow{+10} 19 \xrightarrow{+14} 33 \xrightarrow{+18} 51 \xrightarrow{+22} 73 \xrightarrow{+26} 99$

c.  $5 \xrightarrow{+10} 15 \xrightarrow{+25} 40 \xrightarrow{+35} 75 \xrightarrow{+45} 120 \xrightarrow{+55} 175 \xrightarrow{+65} 240$

3. Study the pattern and write the rule. Use the rule to fill in the missing sums.

$$\boxed{1} + \boxed{2} + \boxed{3} = \boxed{6}$$

$$\boxed{2} + \boxed{3} + \boxed{4} = \boxed{9}$$

$$\boxed{3} + \boxed{4} + \boxed{5} = \boxed{12}$$

a.  $\boxed{4} + \boxed{5} + \boxed{6} = \boxed{15}$

b.  $\boxed{50} + \boxed{51} + \boxed{52} = \boxed{153}$

c.  $\boxed{110} + \boxed{111} + \boxed{112} = \boxed{333}$

Rule  $\boxed{\text{The sum of 3 consecutive numbers} = \text{middle number} \times 3}$

4. Study the pattern and write the rule. Use the rule to fill in the missing totals.

$$\boxed{1} + \boxed{2} + \boxed{3} + \boxed{4} = \boxed{10}$$

$$\boxed{2} + \boxed{3} + \boxed{4} + \boxed{5} = \boxed{14}$$

$$\boxed{3} + \boxed{4} + \boxed{5} + \boxed{6} = \boxed{18}$$

a.  $\boxed{4} + \boxed{5} + \boxed{6} + \boxed{7} = \boxed{22}$

b.  $\boxed{49} + \boxed{50} + \boxed{51} + \boxed{52} = \boxed{202}$

c.  $\boxed{101} + \boxed{102} + \boxed{103} + \boxed{104} = \boxed{410}$

Rule  $\boxed{\text{The sum of 4 consecutive numbers} = \text{Sum of two middle number} \times 2}$

5. Study the addition of consecutive numbers starting from 1. Write the rule and use it to write the missing totals.

The sum of consecutive number starting from 1 = last number  $\times$  (last number + 1)  $\div 2$

a. 28

b. 55

6. Study the patterns and write the missing products.

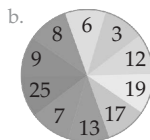
a. 277775

b. 2777775

7. a. 122221

b. 1222221

8. Study the pattern in each and fill in the missing numbers.



c. 

64	32	16	8
72	36	18	9
80	40	20	10
88	44	22	11
96	48	24	12

d. 

25	29	33
21	25	29
17	21	25
13	17	21
9	13	17

Rule: Opposite no. is the square.

Rule: Number  $\times 2 + 1$  = opposite numbers

Rule:  $12 \times 2 = 24$   
 $12 \times 4 = 48$   
 $12 \times 8 = 36$

Rule: Vertically difference is 4.

9. Study the shapes and write a rule about sides and vertices.



Rule Number of sides = number of vertices

10. Look at the examples and write what the coded messages say.

- a. Do not hurry  
b. The code is broken

**Chapter 14 Time**

**EXERCISE-14A**

1. Write the time as shown.

- b. 12:03    c. 9:45    d. 12:30    e. 8:23    f. 7:45    g. 10:12    h. 11:01  
i. 3:44    j. 6:31

2. Write the time as shown.

- c. thirty two past four                      d. quarter past four  
e. twenty-one past four                      f. nine o'clock  
g. forty-nine past twelve                      h. five past five  
i. half past eleven                              j. forty three past six

3. Draw the hands to show the time.



4. How much time has passed?

- a. 1 hour    b. 47 minutes    c. 13 minutes    d. 12 hours 15 minutes

5. Fill in the time with a.m. or p.m. as needed.

- a. 11:07 a.m.    b. 5 a.m.    c. 6 p.m.    d. 8:35 p.m.    e. 2 a.m.    f. 12 noon  
g. 2:45 p.m.    h. 12:12 p.m.    i. 12:30 a.m.    j. 12 midnight

**EXERCISE 14B**

1. Fill in.

- a. 5 hours =  $5 \times 60 \text{ min} = 300 \text{ min}$   
b. 6 weeks =  $4 \times 24 \text{ hours} = 96 \text{ hours}$   
c. 6 weeks =  $6 \times 7 \text{ days} = 42 \text{ days}$   
d. 120 days =  $120 \div 30 \text{ months} = 4 \text{ months}$   
e. 11 minutes =  $11 \times 60 \text{ seconds} = 660 \text{ seconds}$   
f. 180 seconds =  $180 \div 60 \text{ minutes} = 3 \text{ minutes}$

2. Change to minutes.

a. 6 hours =  $6 \times 60 \text{ min} = 360 \text{ min}$

b. 5 h 43 min =  $5 \times 60 \text{ min} + 43 \text{ min}$   
=  $300 \text{ min} + 43 \text{ min}$   
=  $343 \text{ min}$

c. 20 h 20 min =  $20 \times 60 \text{ min} + 20 \text{ min}$   
=  $1200 \text{ min} + 20 \text{ min}$   
=  $1220 \text{ min}$

d. 3 days =  $3 \times 24 \times 60 \text{ minutes} = 4320 \text{ minutes}$

3. Covert to seconds.

a. 5 minutes =  $5 \times 60 \text{ seconds} = 300 \text{ seconds}$

b. 2 min 25 s =  $2 \times 60 \text{ s} + 25 \text{ s} = 120 \text{ s} + 25 \text{ s}$   
=  $145 \text{ s}$

c. 15 min 25 s =  $15 \times 60 \text{ s} + 25 \text{ s}$   
=  $900 \text{ s} + 25 \text{ s} = 925 \text{ s}$

d. 2 hours =  $2 \times 60 \text{ min} = 120 \text{ min}$

4. Change to hours.

a. 8 days =  $8 \times 24 \text{ hours} = 192 \text{ hours}$

b. 2 weeks =  $2 \times 7 \times 24 \text{ hours} = 336 \text{ hours}$

c. 4 days 10 hours =  $4 \times 24 \text{ hours} + 10 \text{ hours}$   
=  $96 \text{ hours} + 10 \text{ hours}$   
=  $106 \text{ hours}$

d. 2 month =  $2 \times 30 \times 24 \text{ hours}$   
=  $1440 \text{ hours}$

5. Convert to days.

a. 7 weeks =  $7 \times 7 \text{ days} = 49 \text{ days}$

b. 5 months =  $5 \times 30 \text{ days} = 150 \text{ days}$

c. 2 weeks 2 days =  $2 \times 7 \text{ days} + 2 \text{ days}$   
=  $14 \text{ days} + 2 \text{ days}$   
=  $16 \text{ days}$

d. 3 months 3 weeks =  $3 \times 30 \text{ days} + 3 \times 7 \text{ days}$   
=  $90 \text{ days} + 21 \text{ days}$   
=  $111 \text{ days}$

6. Convert to hours and minutes.

a. 135 minutes =  $135 \div 60 \text{ h}$

$$\begin{array}{r} 2 \\ 60 \overline{) 135} \\ \underline{-120} \\ 15 \end{array}$$

$\therefore 135 \text{ minutes} = 2 \text{ h } 15 \text{ min}$

b. 303 minutes =  $303 \div 60 \text{ h}$

$$\begin{array}{r} 5 \\ 60 \overline{) 303} \\ \underline{-300} \\ 3 \end{array}$$

$\therefore 303 \text{ minutes} = 5 \text{ h } 3 \text{ min}$

c. 4100 minutes =  $4100 \div 60$  h

$$\begin{array}{r} 68 \\ 60 \overline{) 4100} \\ \underline{-360} \\ 500 \\ \underline{-480} \\ 20 \end{array}$$

$\therefore 4100$  minutes = 68 h 20 min

d. 900 minutes =  $900 \div 60$  h

$$\begin{array}{r} 15 \\ 60 \overline{) 900} \\ \underline{-60} \\ 300 \\ \underline{-300} \\ 0 \end{array}$$

$\therefore 900$  minutes = 15 h

7. Convert to minutes and seconds.

a. 68 seconds =  $68 \div 60$  min

$$\begin{array}{r} 1 \\ 60 \overline{) 68} \\ \underline{-60} \\ 18 \end{array}$$

$\therefore 68$  seconds = 1 min 8 s

b. 200 seconds =  $200 \div 60$  min

$$\begin{array}{r} 3 \\ 60 \overline{) 200} \\ \underline{-180} \\ 20 \end{array}$$

$\therefore 200$  seconds = 3 min 20 s

c. 420 seconds =  $420 \div 60$  min

$$\begin{array}{r} 7 \\ 60 \overline{) 420} \\ \underline{-420} \\ 0 \end{array}$$

$\therefore 420$  seconds = 7 min

d. 6606 seconds =  $6606 \div 60$  min

$$\begin{array}{r} 110 \\ 60 \overline{) 6606} \\ \underline{-60} \\ 60 \\ \underline{-60} \\ 06 \end{array}$$

$\therefore 6606$  seconds = 110 min 6 s

8. Change to days and hours.

a. 46 hours =  $46 \div 24$  days

$$\begin{array}{r} 1 \\ 24 \overline{) 46} \\ \underline{-24} \\ 22 \end{array}$$

$\therefore 46$  hours = 1 day 22 h

b. 96 hours =  $96 \div 24$  days

$$\begin{array}{r} 4 \\ 24 \overline{) 96} \\ \underline{-96} \\ 0 \end{array}$$

$\therefore 96$  hours = 4 days

c. 170 hours =  $170 \div 24$  days

$$\begin{array}{r} 7 \\ 24 \overline{) 170} \\ \underline{-168} \\ 2 \end{array}$$

$\therefore 170$  hours = 7 days 2 h

d. 500 hours =  $500 \div 24$  days

$$\begin{array}{r} 2 \\ 24 \overline{) 500} \\ \underline{-48} \\ 20 \end{array}$$

$\therefore 500$  hours = 2 days 20 h

9. Test for leap year.

a. 2012 does not end in two zeros.

$$\begin{array}{r} 503 \\ 4 \overline{) 2012} \\ \underline{-20} \phantom{0} \\ 0012 \\ \underline{-12} \phantom{0} \\ \underline{\phantom{0}0} \phantom{0} \end{array}$$

2012 is divisible by 4.  
So it is a leap year.

b. 2017 does not end in two zeros.

$$\begin{array}{r} 504 \\ 4 \overline{) 2017} \\ \underline{-20} \phantom{0} \\ 017 \\ \underline{-16} \phantom{0} \\ \underline{\phantom{0}1} \phantom{0} \end{array}$$

2017 is not divisible by 4.  
So it is not a leap year.

c. 2020 does not end in two zeros.

So we divide by 4 to test.

$$\begin{array}{r} 505 \\ 4 \overline{) 2020} \\ \underline{-20} \phantom{0} \\ 020 \\ \underline{-20} \phantom{0} \\ \underline{\phantom{0}0} \phantom{0} \end{array}$$

2020 is divisible by 4.  
So it is a leap year.

d. 2100 ends in two zeros.

So we divide by 400 to test.

$$\begin{array}{r} 5 \\ 400 \overline{) 2100} \\ \underline{-2000} \phantom{0} \\ \underline{\phantom{0}100} \phantom{0} \end{array}$$

2100 is not divisible by 400.  
So it is not a leap year.

**EXERCISE 14C**

Do these sums.

1. a.  $\begin{array}{r} \text{min} \\ 25 \\ +29 \\ \hline 54 \end{array}$  b.  $\begin{array}{r} \text{h} \\ 28 \\ +7 \\ \hline 35 \end{array}$  c.  $\begin{array}{r} \text{min} \\ 28 \\ +29 \\ \hline 57 \end{array}$  d.  $\begin{array}{r} \text{min} \\ 15 \\ -7 \\ \hline 8 \end{array}$  e.  $\begin{array}{r} \text{h} \\ 41 \\ -28 \\ \hline 13 \end{array}$  f.  $\begin{array}{r} \text{h} \\ 86 \\ -18 \\ \hline 68 \end{array}$

2. a.  $\begin{array}{r} \text{h} \quad \text{min} \\ 12 \quad 22 \\ +11 \quad 29 \\ \hline 23 \quad 51 \end{array}$  b.  $\begin{array}{r} \text{h} \quad \text{min} \\ 23 \quad 12 \\ +57 \quad 18 \\ \hline 80 \quad 30 \end{array}$  c.  $\begin{array}{r} \text{h} \quad \text{min} \\ 45 \quad 14 \\ +45 \quad 27 \\ \hline 90 \quad 41 \end{array}$  d.  $\begin{array}{r} \text{h} \quad \text{min} \\ 61 \quad 42 \\ +59 \quad 5 \\ \hline 120 \quad 47 \end{array}$

3. a.  $\begin{array}{r} \text{h} \quad \text{min} \\ 17 \quad 18 \\ -8 \quad 9 \\ \hline 9 \quad 09 \end{array}$  b.  $\begin{array}{r} \text{h} \quad \text{min} \\ 37 \quad 25 \\ -15 \quad 16 \\ \hline 22 \quad 09 \end{array}$  c.  $\begin{array}{r} \text{h} \quad \text{min} \\ 72 \quad 41 \\ -44 \quad 33 \\ \hline 28 \quad 08 \end{array}$  d.  $\begin{array}{r} \text{h} \quad \text{min} \\ 83 \quad 51 \\ -66 \quad 26 \\ \hline 17 \quad 25 \end{array}$

4. a.  $\begin{array}{r} \text{h} \quad \text{min} \\ 30 \quad 00 \\ +00 \quad 35 \\ \hline 30 \quad 35 \end{array}$  b.  $\begin{array}{r} \text{h} \quad \text{min} \\ 3 \quad 26 \\ +4 \quad 33 \\ \hline 7 \quad 59 \end{array}$  c.  $\begin{array}{r} \text{h} \quad \text{min} \\ 22 \quad 3 \\ +34 \quad 18 \\ \hline 56 \quad 21 \end{array}$

5. a. 
$$\begin{array}{r} \text{h} \quad \text{min} \\ 74 \quad 00 \\ -26 \quad 00 \\ \hline 48 \quad 00 \end{array}$$

b. 
$$\begin{array}{r} \text{h} \quad \text{min} \\ 3 \quad 56 \\ -0 \quad 47 \\ \hline 3 \quad 09 \end{array}$$

c. 
$$\begin{array}{r} \text{h} \quad \text{min} \\ 64 \quad 55 \\ -36 \quad 37 \\ \hline 28 \quad 18 \end{array}$$

6. Time spent on studying Maths = 1 h 15 min  
 Time spent on studying English = 1 h 35 min  
 Total time spent = 1 h 15 min + 1 h 35 min  
 = 2 h 50 min

$$\begin{array}{r} \text{h} \quad \text{min} \\ 1 \quad 15 \\ + 1 \quad 35 \\ \hline 2 \quad 50 \end{array}$$

7. Total timing of the journey = 4 h 37 min + 2 h 12 min  
 = 6 h 49 min

$$\begin{array}{r} \text{h} \quad \text{min} \\ 4 \quad 37 \\ + 2 \quad 12 \\ \hline 6 \quad 49 \end{array}$$

8. Time duration of the quiz show = 1 h 20 min  
 Time duration of the advertisement = 14 min  
 Time duration of the quiz show = 1 h 20 min - 14 min  
 = 1 h 6 min

$$\begin{array}{r} \text{h} \quad \text{min} \\ 1 \quad 20 \\ - 0 \quad 14 \\ \hline 1 \quad 6 \end{array}$$

9. Timing when show start = 7:30 p.m. - 3 hours  
 = 7 h 30 min - 3 hours  
 = 4 h 30 min  
 = 4:30 p.m.

$$\begin{array}{r} \text{h} \quad \text{min} \\ 7 \quad 30 \\ - 3 \quad 00 \\ \hline 4 \quad 30 \end{array}$$

10. Time when she came back = 5:00 p.m. + 2 h 17 min  
 = 5 h 00 min + 2 h 17 min  
 = 7 h 17 min

$$\begin{array}{r} \text{h} \quad \text{min} \\ 5 \quad 00 \\ + 2 \quad 17 \\ \hline 7 \quad 17 \end{array}$$

## Chapter 15 Units of Measurement

### EXERCISE 15

Convert into millimeters.

1. a. 1 cm = 10 mm  
 $\therefore$  8 cm =  $8 \times 10$  mm  
 = 80 mm

b. 1 cm = 10 mm  
 $\therefore$  23 cm =  $23 \times 10$  mm  
 = 230 mm

c. 1 m = 1000 mm  
 $\therefore$  2 m =  $2 \times 1000$  mm  
 = 2000 mm

d. 1 m = 1000 mm  
 $\therefore$  20 m =  $20 \times 1000$  mm  
 = 20000 mm

2. a. 1 cm = 10 mm  
 $\therefore$  2 cm =  $2 \times 10$  mm  
 = 20 mm  
 $\therefore$  2 cm 8 mm = 20 mm + 8 mm  
 = 28 mm

b. 1 cm = 10 mm  
 $\therefore$  15 cm =  $15 \times 10$  mm  
 = 150 mm  
 $\therefore$  15 cm 5 mm = 150 mm + 5 mm  
 = 155 mm

c.  $1 \text{ m} = 1000 \text{ mm}$   
 $\therefore 3 \text{ m} = 3 \times 1000 \text{ mm}$   
 $= 3000 \text{ mm}$   
 $1 \text{ cm} = 10 \text{ mm}$   
 $\therefore 19 \text{ cm} = 190 \text{ mm}$   
 $3 \text{ m } 19 \text{ cm} = 3000 \text{ mm} + 190 \text{ mm}$   
 $= 3190 \text{ mm}$

d.  $1 \text{ m} = 1000 \text{ mm}$   
 $\therefore 18 \text{ m} = 18 \times 1000 \text{ mm}$   
 $= 18000 \text{ mm}$   
 $1 \text{ cm} = 10 \text{ mm}$   
 $6 \text{ cm} = 6 \times 10 \text{ mm} = 60 \text{ mm}$   
 $\therefore 18 \text{ m } 6 \text{ cm} = 18000 \text{ mm} + 60 \text{ mm}$   
 $= 18060 \text{ mm}$

Convert into metres.

3. a.  $1 \text{ km} = 1000 \text{ m}$   
 $\therefore 5 \text{ km} = 5 \times 1000 \text{ m}$   
 $= 5000 \text{ m}$

b.  $1 \text{ km} = 1000 \text{ m}$   
 $\therefore 36 \text{ km} = 36 \times 1000 \text{ m}$   
 $= 36000 \text{ m}$

c.  $1 \text{ cm} = \frac{1}{100} \text{ m}$   
 $\therefore 800 \text{ cm} = (800 \div 100) \text{ m}$   
 $= 8 \text{ m}$

d.  $1 \text{ mm} = \frac{1}{1000} \text{ m}$   
 $\therefore 73000 \text{ mm} = (73000 \div 1000) \text{ m}$   
 $= 73 \text{ m}$

4. a.  $1 \text{ km} = 1000 \text{ m}$   
 $\therefore 7 \text{ km} = 7 \times 1000 \text{ m}$   
 $= 7000 \text{ m}$   
 $\therefore 7 \text{ km } 152 \text{ m} = 7000 \text{ m} + 152 \text{ m}$   
 $= 7152 \text{ m}$

b.  $1 \text{ km} = 1000 \text{ m}$   
 $\therefore 25 \text{ km} = 25 \times 1000 \text{ m}$   
 $= 25000 \text{ m}$   
 $\therefore 25 \text{ km } 80 \text{ m} = 25000 \text{ m} + 80 \text{ m}$   
 $= 25080 \text{ m}$

c.  $1 \text{ cm} = \frac{1}{100} \text{ m}$   
 $\therefore 8500 \text{ cm} = 8500 \div 100 \text{ m}$   
 $= 85 \text{ m}$

d.  $1 \text{ mm} = \frac{1}{1000} \text{ m}$   
 $\therefore 43000 \text{ mm} = 43000 \div 1000 \text{ m}$   
 $= 43 \text{ m}$

Convert into kg and g.

5. a.  $1000 \text{ g} = 1 \text{ kg}$   
 $\therefore 4000 \text{ g} = (4000 \div 1000) \text{ kg}$   
 $= 4 \text{ kg}$

b.  $1000 \text{ g} = 1 \text{ kg}$   
 $\therefore 18000 \text{ g} = (18000 \div 1000) \text{ kg}$   
 $= 18 \text{ kg}$

c.  $1000 \text{ g} = 1 \text{ kg}$   
 $\therefore 5290 \text{ g} = (5290 \div 1000) \text{ kg}$

d.  $1000 \text{ g} = 1 \text{ kg}$   
 $\therefore 15185 \text{ g} = (15185 \div 1000) \text{ kg}$

The number of zeros in  
the divisor = 3

$\therefore$  quotient = 5, remainder = 290  
 $\therefore 5290 \text{ g} = 5 \text{ kg } 290 \text{ g}$

The number of zeros in  
the divisor = 3

$\therefore$  quotient = 15, remainder = 185  
 $\therefore 15185 \text{ g} = 15 \text{ kg } 185 \text{ g}$

Convert into millilitres.

6. a.  $1 \text{ l} = 1000 \text{ ml}$   
 $\therefore 7 \text{ l} = 7 \times 1000 \text{ ml}$   
 $= 7000 \text{ ml}$

b.  $1 \text{ l} = 1000 \text{ ml}$   
 $\therefore 35 \text{ l} = 35 \times 1000 \text{ ml}$   
 $= 35000 \text{ ml}$



$$\begin{aligned} \text{c. } 1\text{ l} &= 1000\text{ ml} \\ \therefore 2\text{ l} &= 2 \times 1000\text{ ml} = 2000\text{ ml} \\ \therefore 2\text{ l } 22\text{ ml} &= 2000\text{ ml} + 22\text{ ml} \\ &= 2022\text{ ml} \end{aligned}$$

$$\begin{aligned} \text{d. } 1\text{ l} &= 1000\text{ ml} \\ 5\text{ l} &= 5 \times 1000\text{ ml} = 5000\text{ ml} \\ \therefore 5\text{ l } 250\text{ ml} &= 5000\text{ ml} + 250\text{ ml} \\ &= 5250\text{ ml} \end{aligned}$$

Convert.

$$\begin{aligned} \text{7. a. } 10\text{ mm} &= 1\text{ cm} \\ \therefore 85\text{ mm} &= (85 \div 10)\text{ cm} \\ &\text{The number of zeros in} \\ &\text{the divisor} = 1 \\ \therefore \text{quotient} &= 8, \text{ remainder} = 5 \\ \therefore 85\text{ mm} &= 8\text{ cm } 5\text{ mm} \end{aligned}$$

$$\begin{aligned} \text{b. } 100\text{ cm} &= 1\text{ m} \\ \therefore 273\text{ cm} &= (273 \div 100)\text{ m} \\ &\text{The number of zeros in} \\ &\text{the divisor} = 2 \\ \therefore \text{quotient} &= 2, \text{ remainder} = 73 \\ \therefore 273\text{ cm} &= 2\text{ m } 73\text{ cm} \end{aligned}$$

$$\begin{aligned} \text{c. } 1\text{ m} &= 100\text{ cm} \\ \therefore 8\text{ m} &= 8 \times 100 = 800\text{ cm} \\ \therefore 8\text{ m } 52\text{ cm} &= 800\text{ cm} + 52\text{ cm} \\ &= 852\text{ cm} \end{aligned}$$

$$\begin{aligned} \text{d. } 1\text{ m} &= \frac{1}{1000}\text{ km} \\ \therefore 8602\text{ m} &= (8602 \div 1000)\text{ km} \\ &\text{The number of zeros in} \\ &\text{the divisor} = 3 \\ \therefore \text{quotient} &= 8, \text{ remainder} = 602 \\ \therefore 8602\text{ m} &= 8\text{ km } 602\text{ m} \end{aligned}$$

$$\begin{aligned} \text{e. } 1\text{ cm} &= \frac{1}{100}\text{ m} \\ \therefore 3003\text{ cm} &= (3003 \div 100)\text{ m} \\ &\text{The number of zeros in} \\ &\text{the divisor} = 2 \\ \therefore \text{quotient} &= 30, \text{ remainder} = 3 \\ \therefore 3003\text{ cm} &= 30\text{ m } 3\text{ cm} \end{aligned}$$

$$\begin{aligned} \text{f. } 1\text{ m} &= \frac{1}{1000}\text{ km} \\ \therefore 6055\text{ m} &= (6055 \div 1000)\text{ km} \\ &\text{The number of zeros in} \\ &\text{the divisor} = 3 \\ \therefore \text{quotient} &= 6, \text{ remainder} = 55 \\ \therefore 6055\text{ m} &= 6\text{ km } 55\text{ m} \end{aligned}$$

$$\begin{aligned} \text{8. a. } 1\text{ kg} &= 1000\text{ g} \\ \therefore 8\text{ kg } 44\text{ g} &= 8 \times 1000\text{ g} + 44\text{ g} \\ &= 8000\text{ g} + 44\text{ g} \\ &= 8044\text{ g} \end{aligned}$$

$$\begin{aligned} \text{b. } 1\text{ g} &= \frac{1}{1000}\text{ kg} \\ \therefore 21001\text{ g} &= (21001 \div 1000)\text{ kg} \\ &\text{The number of zeros in} \\ &\text{the divisor} = 3 \\ \therefore \text{quotient} &= 21, \text{ remainder} = 1 \\ \therefore 21001\text{ g} &= 21\text{ kg } 1\text{ g} \end{aligned}$$

$$\begin{aligned} \text{c. } 1\text{ g} &= \frac{1}{1000}\text{ kg} \\ \therefore 7055\text{ g} &= (7055 \div 1000)\text{ kg} \\ &\text{The number of zeros in} \\ &\text{the divisor} = 3 \\ \therefore \text{quotient} &= 7, \text{ remainder} = 55 \\ \therefore 7055\text{ g} &= 7\text{ kg } 55\text{ g} \end{aligned}$$

9. a.  $1\text{ l} = 1000\text{ ml}$

$$\begin{aligned} \therefore 4\text{ l } 65\text{ ml} &= 4 \times 1000\text{ ml} + 65\text{ ml} \\ &= 4000\text{ ml} + 65\text{ ml} \\ &= 4065\text{ ml} \end{aligned}$$

b.  $1\text{ ml} = \frac{1}{1000}\text{ l}$

$$\therefore 2170\text{ ml} = (2170 \div 1000)\text{ l}$$

The number of zeros in the divisor = 3

$$\therefore \text{quotient} = 2, \text{ remainder} = 170$$

$$\therefore 2170\text{ ml} = 2\text{ l } 170\text{ ml}$$

c.  $1\text{ ml} = \frac{1}{1000}\text{ l}$

$$\therefore 7325\text{ ml} = (7325 \div 1000)\text{ l}$$

The number of zeros in the divisor = 3

$$\therefore \text{quotient} = 7, \text{ remainder} = 325$$

$$\therefore 7325\text{ ml} = 7\text{ l } 325\text{ ml}$$

## Chapter 16 Operations with Measurements

### EXERCISE 16A

Add.

1. a. 
$$\begin{array}{r} \text{cm} \quad \text{mm} \\ 1 \quad 1 \\ 207 \\ + 53 \\ \hline 260 \end{array}$$

b. 
$$\begin{array}{r} \text{cm} \quad \text{mm} \\ 1 \quad 1 \\ 164 \\ + 238 \\ \hline 402 \end{array}$$

c. 
$$\begin{array}{r} \text{m} \quad \text{cm} \\ 1 \quad 1 \quad 1 \\ 7287 \\ + 4715 \\ \hline 12002 \end{array}$$

d. 
$$\begin{array}{r} \text{m} \quad \text{cm} \\ 1 \quad 1 \quad 1 \\ 21686 \\ + 61826 \\ \hline 83512 \end{array}$$

e. 
$$\begin{array}{r} \text{km} \quad \text{m} \\ 1 \quad 1 \\ 20407 \\ + 85708 \\ \hline 106115 \end{array}$$

Ans. 26 cm

Ans. 40 cm

Ans. 120 m

Ans. 835 m

Ans. 106 km

2 mm

2 cm

12 cm

115 m

f. 
$$\begin{array}{r} \text{km} \quad \text{m} \\ 1 \quad 1 \\ 32651 \\ + 313584 \\ \hline 346235 \end{array}$$

g. 
$$\begin{array}{r} \text{kg} \quad \text{g} \\ 1 \quad 1 \\ 6820 \\ + 16360 \\ \hline 23180 \end{array}$$

h. 
$$\begin{array}{r} \text{kg} \quad \text{g} \\ 1 \quad 1 \quad 1 \\ 3375 \\ + 126960 \\ \hline 160035 \end{array}$$

i. 
$$\begin{array}{r} \text{l} \quad \text{ml} \\ 1 \quad 1 \\ 18200 \\ + 6920 \\ \hline 25120 \end{array}$$

j. 
$$\begin{array}{r} \text{l} \quad \text{ml} \\ 1 \quad 1 \\ 58475 \\ + 41600 \\ \hline 100075 \end{array}$$

Ans. 346 km

Ans. 23 kg

Ans. 160 kg

Ans. 25 l

Ans. 100 l

235 m

180 g

35 g

120 ml

75 ml

2. a. 
$$\begin{array}{r} \text{m} \quad \text{cm} \\ 1 \quad 1 \quad 1 \\ 5485 \\ + 1210 \\ + 825 \\ \hline 7520 \end{array}$$

b. 
$$\begin{array}{r} \text{cm} \quad \text{mm} \\ 1 \quad 1 \\ 27 \\ + 635 \\ + 254 \\ \hline 916 \end{array}$$

c. 
$$\begin{array}{r} \text{l} \quad \text{ml} \\ 1 \quad 1 \\ 9365 \\ + 48700 \\ + 10650 \\ \hline 164115 \end{array}$$

d. 
$$\begin{array}{r} \text{km} \quad \text{m} \\ 1 \quad 1 \quad 1 \\ 12400 \\ + 5507 \\ + 1095 \\ \hline 28002 \end{array}$$

e. 
$$\begin{array}{r} \text{kg} \quad \text{g} \\ 1 \quad 1 \\ 120800 \\ + 3595 \\ + 11220 \\ \hline 167115 \end{array}$$

Ans. 75 m

Ans. 91 cm

Ans. 164 l

Ans. 28 km

Ans. 167 kg

20 cm

6 mm

115 ml

2 m

115 g

3. a. 
$$\begin{array}{r} \text{cm} \quad \text{mm} \\ 1 \quad 1 \\ 33 \\ + 146 \\ + 194 \\ \hline 373 \end{array}$$

b. 
$$\begin{array}{r} \text{m} \quad \text{cm} \\ 1 \quad 2 \quad 1 \\ 1275 \\ + 2743 \\ + 3795 \\ \hline 7813 \end{array}$$

c. 
$$\begin{array}{r} \text{m} \quad \text{cm} \\ 1 \quad 1 \\ 20025 \\ + 0080 \\ + 86039 \\ \hline 106144 \end{array}$$

d. 
$$\begin{array}{r} \text{km} \quad \text{m} \\ 1 \quad 1 \quad 1 \\ 4300 \\ + 12260 \\ + 30658 \\ \hline 47218 \end{array}$$

Ans. 37 cm

Ans. 78 m

Ans. 1 km 61 m

Ans. 47 km

3 mm

13 cm

44 cm

218 m

$$\begin{array}{r}
 \text{kg} \quad \text{g} \\
 \begin{array}{r}
 1 \quad 1 \\
 35 \ 527 \\
 + \ 2 \ 28 \\
 +13 \ 110 \\
 \hline
 50 \ 665
 \end{array}
 \end{array}$$

Ans. 50 kg 665 g

$$\begin{array}{r}
 \text{kg} \quad \text{g} \\
 \begin{array}{r}
 1 \quad 1 \\
 7 \ 750 \\
 + \ 600 \\
 +5 \ 175 \\
 \hline
 13 \ 525
 \end{array}
 \end{array}$$

Ans. 13 kg 525 g

$$\begin{array}{r}
 \text{l} \quad \text{ml} \\
 \begin{array}{r}
 1 \quad 1 \quad 1 \\
 0 \ 250 \\
 + \ 4 \ 708 \\
 +11 \ 95 \\
 \hline
 16 \ 053
 \end{array}
 \end{array}$$

Ans. 16 l 53 ml

$$\begin{array}{r}
 \text{l} \quad \text{ml} \\
 \begin{array}{r}
 1 \quad 1 \quad 1 \\
 1 \ 25 \\
 + \ 975 \\
 +15 \ 400 \\
 \hline
 17 \ 400
 \end{array}
 \end{array}$$

Ans. 17 l 400 ml

$$\begin{array}{r}
 \text{kg} \quad \text{g} \\
 \begin{array}{r}
 1 \quad 1 \quad 1 \\
 5 \ 300 \\
 18 \ 560 \\
 +270 \ 420 \\
 + \ 0 \ 650 \\
 \hline
 294 \ 930
 \end{array}
 \end{array}$$

Ans. 294 kg 930 g

$$\begin{array}{r}
 \text{m} \quad \text{cm} \\
 \begin{array}{r}
 1 \quad 1 \quad 1 \\
 425 \ 50 \\
 350 \ 25 \\
 +585 \ 75 \\
 +200 \ 00 \\
 \hline
 1561 \ 50
 \end{array}
 \end{array}$$

Ans. 1 km 561 m 50 cm

### EXERCISE 16B

Subtract.

$$\begin{array}{r}
 \text{cm} \quad \text{mm} \\
 \begin{array}{r}
 9 \quad 10 \\
 20 \ 0 \\
 -15 \ 5 \\
 \hline
 04 \ 5
 \end{array}
 \end{array}$$

Ans. 4 cm  
5 mm

$$\begin{array}{r}
 \text{cm} \quad \text{mm} \\
 \begin{array}{r}
 10 \quad 13 \\
 41 \ 3 \\
 -12 \ 4 \\
 \hline
 28 \ 9
 \end{array}
 \end{array}$$

Ans. 28 cm  
9 mm

$$\begin{array}{r}
 \text{m} \quad \text{cm} \\
 \begin{array}{r}
 14 \quad 12 \\
 25 \ 25 \\
 -17 \ 85 \\
 \hline
 07 \ 40
 \end{array}
 \end{array}$$

Ans. 7 m  
40 cm

$$\begin{array}{r}
 \text{m} \quad \text{cm} \\
 \begin{array}{r}
 7 \quad 17 \\
 48 \ 27 \\
 -21 \ 59 \\
 \hline
 26 \ 68
 \end{array}
 \end{array}$$

Ans. 26 m  
68 cm

$$\begin{array}{r}
 \text{km} \quad \text{m} \\
 \begin{array}{r}
 0 \ 15 \ 8 \ 15 \\
 159 \ 550 \\
 -75 \ 800 \\
 \hline
 83 \ 750
 \end{array}
 \end{array}$$

Ans. 83 km  
750 m

$$\begin{array}{r}
 \text{km} \quad \text{m} \\
 \begin{array}{r}
 11 \ 9 \quad 10 \\
 8 \ 8 \ 10 \\
 69 \ 200 \\
 -7 \ 579 \\
 \hline
 61 \ 621
 \end{array}
 \end{array}$$

Ans. 61 km  
621 m

$$\begin{array}{r}
 \text{kg} \quad \text{g} \\
 \begin{array}{r}
 10 \ 9 \ 13 \quad 10 \\
 2 \ 8 \ 10 \ 10 \\
 31 \ 040 \\
 -2 \ 155 \\
 \hline
 28 \ 885
 \end{array}
 \end{array}$$

Ans. 28 kg  
885 g

$$\begin{array}{r}
 \text{kg} \quad \text{g} \\
 \begin{array}{r}
 11 \ 14 \quad 11 \quad 12 \\
 1 \ 1 \ 1 \ 1 \\
 225 \ 220 \\
 -59 \ 330 \\
 \hline
 165 \ 890
 \end{array}
 \end{array}$$

Ans. 165 kg  
890 g

$$\begin{array}{r}
 \text{l} \quad \text{ml} \\
 \begin{array}{r}
 11 \quad 10 \\
 3 \ 4 \ 10 \\
 52 \ 085 \\
 -14 \ 500 \\
 \hline
 37 \ 585
 \end{array}
 \end{array}$$

Ans. 37 l  
585 ml

$$\begin{array}{r}
 \text{l} \quad \text{ml} \\
 \begin{array}{r}
 15 \quad 10 \quad 3 \quad 10 \\
 4 \ 8 \ 10 \ 3 \ 10 \\
 560 \ 400 \\
 -385 \ 290 \\
 \hline
 175 \ 110
 \end{array}
 \end{array}$$

Ans. 175 l  
110 ml

Subtract.

$$\begin{array}{r}
 \text{cm} \quad \text{mm} \\
 \begin{array}{r}
 2 \quad 10 \\
 3 \ 0 \\
 -0 \ 6 \\
 \hline
 2 \ 4
 \end{array}
 \end{array}$$

Ans. 2 cm 4 mm

$$\begin{array}{r}
 \text{cm} \quad \text{mm} \\
 \begin{array}{r}
 0 \ 10 \ 13 \\
 11 \ 3 \\
 -4 \ 6 \\
 \hline
 6 \ 7
 \end{array}
 \end{array}$$

Ans. 6 cm 7 mm

$$\begin{array}{r}
 \text{m} \quad \text{cm} \\
 \begin{array}{r}
 9 \quad 10 \\
 3 \ 10 \\
 4 \ 00 \\
 -0 \ 55 \\
 \hline
 3 \ 45
 \end{array}
 \end{array}$$

Ans. 3 m 45 cm

$$\begin{array}{r} \text{m} \quad \text{cm} \\ 9 \quad 10 \\ 0 \cancel{10} \cancel{11} \\ 10 \quad 11 \\ - 7 \quad 39 \\ \hline 2 \quad 72 \end{array}$$

Ans. 2 m 72 cm

$$\begin{array}{r} \text{km} \quad \text{m} \\ 4 \quad 9 \\ 4 \quad \cancel{10} \\ 5 \quad 000 \\ - 0 \quad 750 \\ \hline 4 \quad 250 \end{array}$$

Ans. 4 km 250 m

$$\begin{array}{r} \text{km} \quad \text{m} \\ 3 \quad 9 \\ 3 \quad \cancel{10} \cancel{13} \\ 6 \quad 039 \\ - 3 \quad 158 \\ \hline 2 \quad 881 \end{array}$$

Ans. 2 km 881 m

$$\begin{array}{r} \text{kg} \quad \text{g} \\ 13 \quad 10 \\ 0 \cancel{10} \cancel{10} \\ 14 \quad 050 \\ - 8 \quad 550 \\ \hline 5 \quad 500 \end{array}$$

Ans. 5 kg 500 g

$$\begin{array}{r} \text{kg} \quad \text{g} \\ 10 \quad 10 \quad 10 \\ 6 \quad \cancel{10} \cancel{10} \cancel{10} \\ 71 \quad 100 \\ - 65 \quad 275 \\ \hline 5 \quad 825 \end{array}$$

Ans. 5 kg 825 g

$$\begin{array}{r} \text{l} \quad \text{ml} \\ 9 \quad 14 \quad 9 \\ 2 \quad \cancel{10} \cancel{10} \cancel{10} \\ 30 \quad 500 \\ - 25 \quad 775 \\ \hline 04 \quad 725 \end{array}$$

Ans. 4 l 725 ml

$$\begin{array}{r} \text{l} \quad \text{ml} \\ 4 \quad 10 \\ 5 \quad 000 \\ - 0 \quad 500 \\ \hline 4 \quad 500 \end{array}$$

Ans. 4 l 500 ml

### EXERCISE 16C

Multiply.

$$\begin{array}{r} \text{cm} \quad \text{mm} \\ 3 \\ 2 \quad 8 \\ \times 4 \\ \hline 11 \quad 2 \end{array}$$

Ans. 11 cm  
2 mm

$$\begin{array}{r} \text{cm} \quad \text{mm} \\ 2 \quad 2 \\ 15 \quad 7 \\ \times 4 \\ \hline 62 \quad 8 \end{array}$$

Ans. 62 cm  
8 mm

$$\begin{array}{r} \text{m} \quad \text{cm} \\ 3 \quad 3 \\ 6 \quad 45 \\ \times 7 \\ \hline 45 \quad 15 \end{array}$$

Ans. 45 m  
15 cm

$$\begin{array}{r} \text{m} \quad \text{cm} \\ 2 \quad 2 \\ 77 \quad 82 \\ \times 3 \\ \hline 233 \quad 46 \end{array}$$

Ans. 233 m  
46 cm

$$\begin{array}{r} \text{km} \quad \text{m} \\ 1 \quad 2 \\ 21 \quad 113 \\ \times 8 \\ \hline 168 \quad 904 \end{array}$$

Ans. 168 km  
904 m

$$\begin{array}{r} \text{km} \quad \text{m} \\ 1 \quad 2 \quad 4 \quad 3 \\ 313 \quad 604 \\ \times 8 \\ \hline 2508 \quad 832 \end{array}$$

Ans. 2508 km  
832 m

$$\begin{array}{r} \text{kg} \quad \text{g} \\ 3 \quad 1 \quad 1 \quad 2 \\ 16 \quad 325 \\ \times 5 \\ \hline 81 \quad 625 \end{array}$$

Ans. 81 kg  
625 g

$$\begin{array}{r} \text{kg} \quad \text{g} \\ 1 \quad 1 \quad 4 \quad 3 \\ 72 \quad 276 \\ \times 6 \\ \hline 433 \quad 656 \end{array}$$

Ans. 433 kg  
656 g

$$\begin{array}{r} \text{l} \quad \text{ml} \\ 2 \quad 1 \\ 7 \quad 520 \\ \times 5 \\ \hline 37 \quad 600 \end{array}$$

Ans. 37 l  
600 ml

$$\begin{array}{r} \text{l} \quad \text{ml} \\ 2 \quad 3 \quad 1 \\ 13 \quad 612 \\ \times 6 \\ \hline 81 \quad 672 \end{array}$$

Ans. 81 l  
672 ml

Find.

$$\begin{array}{r} \text{cm} \quad \text{mm} \\ 2 \quad 3 \\ 23 \quad 6 \\ \times 6 \\ \hline 141 \quad 6 \end{array}$$

Ans. 141 cm  
6 mm

$$\begin{array}{r} \text{cm} \quad \text{mm} \\ 3 \\ 7 \quad 5 \\ \times 7 \\ \hline 52 \quad 5 \end{array}$$

Ans. 52 cm  
5 mm

$$\begin{array}{r} \text{m} \quad \text{cm} \\ 3 \quad 3 \\ 24 \quad 10 \\ \times 8 \\ \hline 192 \quad 80 \end{array}$$

Ans. 192 m  
80 cm

$$\begin{array}{r} \text{m} \quad \text{cm} \\ 3 \\ 21 \quad 65 \\ \times 5 \\ \hline 108 \quad 25 \end{array}$$

Ans. 108 m  
25 cm

$$\begin{array}{r} \text{km} \quad \text{m} \\ 1 \\ 6 \quad 325 \\ \times 3 \\ \hline 18 \quad 975 \end{array}$$

Ans. 18 km  
975 m

$$\begin{array}{r} \text{km} \quad \text{m} \\ 5 \quad 1 \quad 1 \\ 26 \quad 120 \\ \times 9 \\ \hline 235 \quad 080 \end{array}$$

Ans. 235 km  
80 m

$$\begin{array}{r} \text{kg} \quad \text{g} \\ 1 \quad 3 \\ 3 \quad 250 \\ \times 7 \\ \hline 22 \quad 750 \end{array}$$

Ans. 22 kg  
750 g

$$\begin{array}{r} \text{kg} \quad \text{g} \\ 2 \quad 2 \quad 1 \quad 2 \\ 45 \quad 545 \\ \times 4 \\ \hline 182 \quad 180 \end{array}$$

Ans. 182 kg  
180 g

$$\begin{array}{r} \text{l} \quad \text{ml} \\ 5 \quad 2 \quad 4 \\ 5 \quad 725 \\ \times 8 \\ \hline 45 \quad 800 \end{array}$$

Ans. 45 l  
800 ml

$$\begin{array}{r} \text{l} \quad \text{ml} \\ 2 \quad 2 \quad 5 \quad 3 \\ 43 \quad 385 \\ \times 6 \\ \hline 260 \quad 310 \end{array}$$

Ans. 260 l  
310 ml

## EXERCISE 16D

Find.

1. a.

$$\begin{array}{r}
 \begin{array}{r}
 \text{m} \\
 86 \\
 11 \overline{) 947} \\
 \underline{-88} \\
 67 \\
 \underline{-66} \\
 1
 \end{array}
 \xrightarrow{100 \text{ cm}}
 \begin{array}{r}
 \text{cm} \\
 15 \\
 65 \\
 \downarrow \\
 165 \\
 \underline{-11} \\
 55 \\
 \underline{-55} \\
 0
 \end{array}
 \end{array}$$

Quotient = 86 m 15 cm

b.

$$\begin{array}{r}
 \begin{array}{r}
 \text{m} \\
 17 \\
 20 \overline{) 345} \\
 \underline{-20} \\
 145 \\
 \underline{-140} \\
 5
 \end{array}
 \xrightarrow{500 \text{ cm}}
 \begin{array}{r}
 \text{cm} \\
 26 \\
 20 \\
 \downarrow \\
 520 \\
 \underline{-40} \\
 120 \\
 \underline{-120} \\
 0
 \end{array}
 \end{array}$$

Quotient = 17 m 26 cm

c.

$$\begin{array}{r}
 \begin{array}{r}
 \text{cm} \\
 86 \\
 15 \overline{) 904} \\
 \underline{-90} \\
 04
 \end{array}
 \xrightarrow{40 \text{ cm}}
 \begin{array}{r}
 \text{mm} \\
 3 \\
 5 \\
 \downarrow \\
 45 \\
 \underline{-45} \\
 0
 \end{array}
 \end{array}$$

Quotient  
= 60 cm 3 mm

d.

$$\begin{array}{r}
 \begin{array}{r}
 \text{cm} \\
 30 \\
 9 \overline{) 272} \\
 \underline{-27} \\
 02
 \end{array}
 \xrightarrow{20 \text{ mm}}
 \begin{array}{r}
 \text{mm} \\
 3 \\
 7 \\
 \downarrow \\
 27 \\
 \underline{-27} \\
 0
 \end{array}
 \end{array}$$

Quotient  
= 30 cm 3 mm

e.

$$\begin{array}{r}
 \begin{array}{r}
 \text{km} \\
 90 \\
 8 \overline{) 720} \\
 \underline{-72} \\
 00
 \end{array}
 \quad
 \begin{array}{r}
 \text{m} \\
 80 \\
 640 \\
 \underline{-64} \\
 00
 \end{array}
 \end{array}$$

Quotient  
= 90 km 80 m

f.

$$\begin{array}{r}
 \begin{array}{r}
 \text{km} \\
 37 \\
 16 \overline{) 593} \\
 \underline{-48} \\
 113 \\
 \underline{-112} \\
 1
 \end{array}
 \xrightarrow{1000 \text{ m}}
 \begin{array}{r}
 \text{m} \\
 80 \\
 280 \\
 \downarrow \\
 1280 \\
 \underline{-128} \\
 00
 \end{array}
 \end{array}$$

Quotient  
= 37 km 80 m

g.

$$\begin{array}{r}
 \begin{array}{r}
 \text{kg} \\
 50 \\
 13 \overline{) 656} \\
 \underline{-65} \\
 06
 \end{array}
 \xrightarrow{6000 \text{ g}}
 \begin{array}{r}
 \text{g} \\
 500 \\
 500 \\
 \downarrow \\
 6500 \\
 \underline{-65} \\
 000
 \end{array}
 \end{array}$$

Quotient  
= 50 kg 500 g

g.

$$\begin{array}{r}
 \begin{array}{r}
 \text{kg} \\
 0 \\
 12 \overline{) 5} \\
 \underline{-0} \\
 5
 \end{array}
 \xrightarrow{5000 \text{ g}}
 \begin{array}{r}
 \text{g} \\
 450 \\
 400 \\
 \downarrow \\
 5400 \\
 \underline{-48} \\
 60 \\
 \underline{-60} \\
 00
 \end{array}
 \end{array}$$

Quotient  
= 450 g

i.

$$\begin{array}{r}
 \begin{array}{r}
 \text{kg} \\
 138 \\
 18 \overline{) 2501} \\
 \underline{-18} \\
 70 \\
 \underline{-54} \\
 161
 \end{array}
 \xrightarrow{17000 \text{ g}}
 \begin{array}{r}
 \text{g} \\
 946 \\
 28 \\
 \downarrow \\
 17028 \\
 \underline{-144} \\
 17 \\
 82 \\
 \underline{-72} \\
 108 \\
 \underline{-108} \\
 0
 \end{array}
 \end{array}$$

Quotient = 138 kg 946 g

j.

$$\begin{array}{r}
 \begin{array}{r}
 \text{l} \\
 70 \\
 7 \overline{) 490} \\
 \underline{-49} \\
 00
 \end{array}
 \quad
 \begin{array}{r}
 \text{ml} \\
 80 \\
 560 \\
 \underline{-56} \\
 00
 \end{array}
 \end{array}$$

Quotient = 70 l 80 ml

$$\begin{array}{r}
 \text{k.} \quad \begin{array}{r}
 \begin{array}{r}
 \overset{l}{37} \\
 21 \overline{) 3364} \\
 \underline{-21} \\
 126 \\
 \underline{-126} \\
 04
 \end{array}
 \end{array}
 \end{array}
 \begin{array}{r}
 \overset{ml}{200} \\
 200 \\
 \downarrow \\
 4200 \\
 \underline{-42} \\
 000
 \end{array}
 \end{array}$$

Quotient = 160 l 200 ml

### PRACTICE SHEET-4

**1. Fill in.**

- a. 1000 mm = 1 m                      b. 1 cm = 10 mm                      c. 1 km = 1000 × 100 cm
- d. 5 kg = 10 × 500 g                      e. 1 kg = 4 × 250 g                      f. 10 ml × 100 = 11
- g. 13 minutes = 13 × 60 seconds = 780 seconds
- h. 120 days = 120 ÷ 30 months = 4 months
- i. Time between 9 p.m. and 12 midnight = 3 hours  
 Time between 12 midnight and 4 a.m. = 4 hours  
 Time between 9 p.m. and 4 a.m. = 3 hours + 4 hours  
 = 7 hours
- j. 360 minutes = 360 ÷ 60 hours = 6 hours

**2. Change.**

- a. 5 h 25 min = 5 × 60 min + 25 min  
 = 300 min + 25 min  
 = 325 min
- b. 2 days 5 h = 2 × 24 h + 5 h  
 = 48 h + 5 h  
 = 53 h
- c. 3 months 3 weeks = 3 × 30 days + 3 × 7 days  
 = 90 days + 21 days  
 = 111 days
- d. 380 s = 380 ÷ 60 min  
 = 6 min 20 s
- e. 642 min = 642 ÷ 60 h  
 = 10 h 42 min
- f. 32 h = 32 ÷ 24 days  
 = 1 day 8 h

$$\begin{array}{r}
 \text{h} \quad \text{min} \\
 0 \quad 25 \\
 + 1 \quad 15 \\
 \hline
 1 \quad 40
 \end{array}$$

Hence, Varun played for 1 h 40 min.

$$\begin{array}{r}
 \text{h} \quad \text{min} \\
 4 \quad 45 \\
 - 0 \quad 35 \\
 \hline
 4 \quad 10
 \end{array}$$

Hence, Disha's classes take 4 h 10 min.

4. Write 'true' or 'false'.

a.  $2 \text{ m } 50 \text{ cm} = 2 \times 1000 \text{ mm} + 500 \text{ mm}$   
 $= 2000 \text{ mm} + 500 \text{ mm} = 2500 \text{ mm}$ , **False**

b.  $31 \text{ mm} = 31 \div 10 \text{ cm}$   
 $= 3 \text{ cm } 1 \text{ mm}$ , **True**

c.  $11 \text{ km } 750 \text{ m} = 11 \times 1000 \text{ m} + 750 \text{ m} = 11000 \text{ m} + 750 \text{ m}$   
 $= 11750 \text{ m}$ , **True**

d.  $25 \text{ kg } 30 \text{ g} = 25 \times 1000 \text{ g} + 30 \text{ g} = 25000 \text{ g} + 30 \text{ g}$   
 $= 25030 \text{ g}$ , **False**

e.  $17 \text{ l } 56 \text{ ml} = 17 \times 1000 \text{ ml} + 56 \text{ ml} = 17000 \text{ ml} + 56 \text{ ml}$   
 $= 17056 \text{ ml}$ , **True**

f.  $2007 \text{ ml} = 2007 \div 1000 \text{ l}$   
 $= 2 \text{ l } 7 \text{ ml}$ , **False**

g. 1800 is not divisible by 400. So, 1800 was not a leap year. Hence, it is **False**.

h.  $2004 \div 4 = 501$ , **True**

5. Do these sums.

$$\begin{array}{r}
 \text{m} \quad \text{cm} \\
 1 \quad 1 \\
 27 \quad 27 \\
 + 54 \quad 31 \\
 + 46 \quad 80 \\
 \hline
 128 \quad 38
 \end{array}$$

**Ans.** 128 m  
38 cm

$$\begin{array}{r}
 \text{cm} \quad \text{mm} \\
 1 \quad 1 \\
 5 \quad 3 \\
 + 17 \quad 6 \\
 + 35 \quad 4 \\
 \hline
 58 \quad 3
 \end{array}$$

**Ans.** 58 cm  
3 mm

$$\begin{array}{r}
 \text{m} \quad \text{cm} \\
 1 \quad 1 \quad 1 \\
 237 \quad 0 \\
 70 \quad 5 \\
 + 665 \quad 95 \\
 + 16 \quad 00 \\
 \hline
 989 \quad 00
 \end{array}$$

**Ans.** 989 m

$$\begin{array}{r}
 \text{km} \quad \text{m} \\
 2 \quad 1 \\
 9 \quad 20 \\
 + 26 \quad 290 \\
 + 137 \quad 9 \\
 \hline
 172 \quad 319
 \end{array}$$

**Ans.** 172 km  
319 m

$$\begin{array}{r}
 \text{kg} \quad \text{g} \\
 1 \quad 1 \quad 1 \quad 1 \\
 17 \quad 500 \\
 5 \quad 95 \\
 + 150 \quad 000 \\
 + 60 \quad 775 \\
 \hline
 233 \quad 370
 \end{array}$$

**Ans.** 233 kg  
370 g

$$\begin{array}{r}
 \text{kg} \quad \text{g} \\
 1 \quad 1 \quad 1 \\
 5 \quad 405 \\
 + 75 \quad 357 \\
 + 156 \quad 000 \\
 \hline
 236 \quad 762
 \end{array}$$

**Ans.** 236 kg  
762 g

$$\begin{array}{r}
 \text{l} \quad \text{ml} \\
 1 \quad 1 \\
 13 \quad 200 \\
 50 \quad 000 \\
 + 125 \quad 500 \\
 + 5 \quad 415 \\
 \hline
 194 \quad 115
 \end{array}$$

**Ans.** 194 l  
115 ml

$$\begin{array}{r}
 \text{l} \quad \text{ml} \\
 1 \quad 1 \\
 7 \quad 85 \\
 + 29 \quad 260 \\
 + 120 \quad 000 \\
 \hline
 156 \quad 345
 \end{array}$$

**Ans.** 156 l  
345 ml

7. a. 
$$\begin{array}{r} \text{m} \quad \text{cm} \\ 2 \quad 10 \\ \hline 3 \quad 00 \\ - 0 \quad 90 \\ \hline 2 \quad 10 \end{array}$$
 b. 
$$\begin{array}{r} \text{cm} \quad \text{mm} \\ 2 \quad 10 \\ \hline 3 \quad 0 \\ - 1 \quad 7 \\ \hline 1 \quad 3 \end{array}$$
 c. 
$$\begin{array}{r} \text{m} \quad \text{cm} \\ 3 \quad 10 \\ \hline 4 \quad 00 \\ - 2 \quad 40 \\ \hline 1 \quad 60 \end{array}$$
 d. 
$$\begin{array}{r} \text{l} \quad \text{ml} \\ 9 \quad 9 \quad 9 \\ 4 \quad 10 \quad 10 \quad 10 \\ \hline 50 \quad 000 \\ - 37 \quad 525 \\ \hline 12 \quad 475 \end{array}$$

Ans. 2 m 10 cm

Ans. 1 cm 3 mm

Ans. 1 m 60 cm

Ans. 12 l 475 ml

8. a. 
$$\begin{array}{r} \text{kg} \quad \text{g} \\ 10 \quad 9 \\ 0 \quad 10 \\ \hline 11 \quad 000 \\ - 5 \quad 750 \\ \hline 5 \quad 250 \end{array}$$
 b. 
$$\begin{array}{r} \text{kg} \quad \text{g} \\ 1 \quad 15 \quad 10 \quad 10 \\ \hline 25 \quad 500 \\ - 17 \quad 125 \\ \hline 8 \quad 375 \end{array}$$
 c. 
$$\begin{array}{r} \text{l} \quad \text{ml} \\ 2 \quad 11 \\ 2 \quad 10 \\ \hline 3 \quad 200 \\ - 0 \quad 750 \\ \hline 2 \quad 450 \end{array}$$
 d. 
$$\begin{array}{r} \text{l} \quad \text{ml} \\ 9 \quad 9 \quad 9 \\ 4 \quad 10 \quad 10 \quad 10 \\ \hline 50 \quad 000 \\ - 37 \quad 525 \\ \hline 12 \quad 475 \end{array}$$

Ans. 5 kg 250 g

Ans. 8 kg 375 g

Ans. 2 l 450 ml

Ans. 12 l 475 ml

9. a. 
$$\begin{array}{r} \text{cm} \quad \text{mm} \\ 46 \\ \hline 15 \quad 9 \\ \times 7 \\ \hline 111 \quad 3 \end{array}$$
 b. 
$$\begin{array}{r} \text{cm} \quad \text{mm} \\ 3 \\ \hline 5 \quad 8 \\ \times 4 \\ \hline 23 \quad 2 \end{array}$$
 c. 
$$\begin{array}{r} \text{m} \quad \text{cm} \\ 2 \quad 4 \quad 3 \\ \hline 150 \quad 87 \\ \times 5 \\ \hline 754 \quad 35 \end{array}$$
 d. 
$$\begin{array}{r} \text{m} \quad \text{cm} \\ 4 \quad 3 \\ \hline 25 \quad 40 \\ \times 9 \\ \hline 228 \quad 60 \end{array}$$

Ans. 111 cm 3 mm

Ans. 23 cm 2 mm

Ans. 754 m 35 cm

Ans. 228 m 60 cm

e. 
$$\begin{array}{r} \text{km} \quad \text{m} \\ \hline 17 \quad 25 \\ \times 8 \\ \hline 136 \quad 200 \end{array}$$

Ans. 136 km 200 m

f. 
$$\begin{array}{r} \text{km} \quad \text{m} \\ 1 \quad 3 \quad 3 \\ \hline 5 \quad 255 \\ \times 6 \\ \hline 31 \quad 530 \end{array}$$

Ans. 31 km 530 m

10. a. 
$$\begin{array}{r} \text{kg} \quad \text{g} \\ 1 \quad 3 \\ \hline 125 \quad 50 \\ \times 6 \\ \hline 750 \quad 300 \end{array}$$
 b. 
$$\begin{array}{r} \text{kg} \quad \text{g} \\ 2 \quad 1 \\ \hline 9 \quad 750 \\ \times 3 \\ \hline 29 \quad 250 \end{array}$$
 c. 
$$\begin{array}{r} \text{l} \quad \text{ml} \\ 7 \quad 4 \\ \hline 19 \quad 95 \\ \times 8 \\ \hline 152 \quad 760 \end{array}$$
 d. 
$$\begin{array}{r} \text{l} \quad \text{ml} \\ 1 \quad 3 \\ \hline 40 \quad 150 \\ \times 7 \\ \hline 281 \quad 050 \end{array}$$

Ans. 750 kg 300 g

Ans. 29 kg 250 g

Ans. 152 l 760 ml

Ans. 281 l 50 ml

11. a. 
$$\begin{array}{r} \text{m} \quad \text{cm} \\ 2 \quad 35 \\ \hline 15 \overline{) 35} \\ - 30 \\ \hline 5 \xrightarrow{500 \text{ cm}} 525 \\ - 45 \\ \hline 75 \\ - 75 \\ \hline 0 \end{array}$$

$\therefore 35 \text{ m } 25 \text{ cm} \div 15 = 2 \text{ m } 35 \text{ cm}$

b. 
$$\begin{array}{r} \text{cm} \quad \text{mm} \\ 48 \quad 5 \\ \hline 5 \overline{) 242} \\ - 20 \\ \hline 42 \\ - 40 \\ \hline 2 \xrightarrow{20 \text{ mm}} 25 \\ - 25 \\ \hline 0 \end{array}$$

$\therefore 242 \text{ cm } 5 \text{ mm} \div 5 = 48 \text{ cm } 5 \text{ mm}$



$$\begin{array}{r}
 \text{km} \qquad \qquad \text{m} \\
 9 \overline{) 60 \quad 372} \\
 \underline{-54} \qquad \qquad \qquad \\
 \quad \quad \quad 6 \quad \xrightarrow{6000 \text{ m}} \quad 6372 \\
 \quad \quad \quad \underline{-63} \qquad \qquad \qquad \\
 \quad \quad \quad \quad \quad 072 \\
 \quad \quad \quad \quad \quad \underline{-72} \\
 \quad \quad \quad \quad \quad \quad \quad 0
 \end{array}$$

$$\therefore 60 \text{ km } 372 \text{ m} \div 9 = 6 \text{ km } 708 \text{ m}$$

$$\begin{array}{r}
 \text{kg} \qquad \qquad \qquad \text{g} \\
 12 \overline{) 0 \quad 600} \\
 \underline{-0} \qquad \qquad \qquad \downarrow \\
 \quad \quad \quad 7 \quad \xrightarrow{7000 \text{ g}} \quad 7200 \\
 \quad \quad \quad \underline{-72} \qquad \qquad \qquad \\
 \quad \quad \quad \quad \quad 000
 \end{array}$$

$$\therefore 7 \text{ kg } 200 \text{ g} \div 12 = 600 \text{ g}$$

$$\begin{array}{r}
 \text{kg} \qquad \qquad \qquad \text{g} \\
 11 \overline{) 446 \quad 655} \\
 \underline{-44} \qquad \qquad \qquad \downarrow \\
 \quad \quad \quad 06 \quad \xrightarrow{6000 \text{ m}} \quad 6655 \\
 \quad \quad \quad \underline{-66} \qquad \qquad \qquad \\
 \quad \quad \quad \quad \quad 055 \\
 \quad \quad \quad \quad \quad \underline{-55} \\
 \quad \quad \quad \quad \quad \quad \quad 0
 \end{array}$$

$$\therefore 446 \text{ kg } 655 \text{ g} \div 11 = 4 \text{ kg } 605 \text{ g}$$

$$\begin{array}{r}
 \text{l} \qquad \qquad \qquad \text{ml} \\
 13 \overline{) 1342 \quad 301} \\
 \underline{-13} \qquad \qquad \qquad \downarrow \\
 \quad \quad \quad 042 \\
 \quad \quad \quad \underline{-39} \qquad \qquad \qquad \\
 \quad \quad \quad \quad \quad 3 \quad \xrightarrow{3000 \text{ ml}} \quad 3913 \\
 \quad \quad \quad \quad \quad \underline{-39} \qquad \qquad \qquad \\
 \quad \quad \quad \quad \quad \quad \quad 013 \\
 \quad \quad \quad \quad \quad \quad \quad \underline{-13} \\
 \quad \quad \quad \quad \quad \quad \quad \quad \quad 0
 \end{array}$$

$$\therefore 1342 \text{ l } 913 \text{ ml} \div 13 = 103 \text{ l } 301 \text{ ml}$$

$$\begin{array}{r}
 \text{g} \qquad \qquad \qquad \text{ml} \\
 7 \overline{) 917 \quad 280} \\
 \underline{-7} \qquad \qquad \qquad \underline{-28} \\
 \quad \quad \quad 21 \qquad \qquad \quad 00 \\
 \quad \quad \quad \underline{-21} \\
 \quad \quad \quad \quad \quad 07 \\
 \quad \quad \quad \quad \quad \underline{-7} \\
 \quad \quad \quad \quad \quad \quad \quad 0
 \end{array}$$

$$\therefore 917 \text{ l } 280 \text{ ml} \div 7 = 131 \text{ l } 40 \text{ ml}$$

## Chapter 17 Lines and Shapes

### EXERCISE 17A

1. Fill in the blanks.

- a. closed      b. segment      c. triangle      d. polygon      e. vertex

2. Write 'true' or 'false'.

- a. True      b. True      c. False      d. True      e. False

### EXERCISE 17B

1. Fill in the blanks.

- a. 2x      b. centre      c.  $r = \frac{d}{2} = \frac{1}{2} \text{ cm} = \frac{10}{2} \text{ mm} = 5 \text{ mm}$   
d.  $d = 2r = 2 \times 50 \text{ cm} = 100 \text{ cm} = 1 \text{ m}$       e. circumference

2. Write 'true' or 'false'.

- a. false    b. false    c. true    d. true    e. false

Chapter 18 Perimeter and Area

**EXERCISE 18A**

1. Find the perimeter.

- a. Perimeter =  $3\text{ cm} + 4\text{ cm} + 5\text{ cm} = 12\text{ cm}$   
b. Perimeter =  $18\text{ m} + 8\text{ m} + 10\text{ m} + 13\text{ m} + 28\text{ m} = 77\text{ m}$   
c. Perimeter =  $5\text{ m} + 8\text{ m} + 9\text{ m} + 6\text{ m} = 28\text{ m}$

2. Find the missing measurement.

- a. Length of the required side =  $27\text{ cm} - (9 + 11)\text{ cm}$   
 $= 27\text{ cm} - 20\text{ cm} = 7\text{ cm}$   
b. Length of the required side =  $215\text{ m} - (45\text{ m} + 55\text{ m} + 35\text{ m} + 30\text{ m})$   
 $= 215\text{ m} - 165\text{ m}$   
 $= 50\text{ m}$   
c. Length of the required side =  $480\text{ m} - (80\text{ m} + 80\text{ m} + 80\text{ m} + 80\text{ m} + 80\text{ m})$   
 $= 480\text{ m} - 400\text{ m}$   
 $= 80\text{ m}$

3. Find the perimeter of a rectangle whose sides are

- a. Perimeter of the rectangle =  $2 \times (\text{length} + \text{breadth})$   
 $= 2 \times (14 + 11)\text{ cm}$   
 $= 2 \times 25\text{ cm} = 50\text{ cm}$   
b. Perimeter of the rectangle =  $2 \times (\text{length} + \text{breadth})$   
 $= 2 \times (22 + 18)\text{ m}$   
 $= 2 \times 40\text{ m} = 80\text{ m}$   
c. Perimeter of the rectangle =  $2 \times (\text{length} + \text{breadth})$   
 $= 2 \times (6\text{ m } 25\text{ cm} + 4\text{ m } 50\text{ cm})$   
 $= 2 \times (10\text{ m } 75\text{ cm})$   
 $= 20\text{ m } 150\text{ cm}$   
 $= 21\text{ m } 50\text{ cm}$

4. a. Perimeter of the square =  $4 \times \text{side}$

$$= 4 \times 30\text{ m} = 120\text{ m}$$

b. Perimeter of the square =  $4 \times \text{side}$

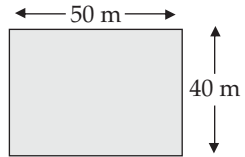
$$= 4 \times 12\text{ m } 25\text{ cm}$$

$$= 48\text{ m } 100\text{ cm}$$

$$= 49\text{ m}$$

- c. Perimeter of the square =  $4 \times \text{side}$   
 $= 4 \times 20 \text{ m } 50 \text{ cm} = 80 \text{ m } 200 \text{ cm}$   
 $= 82 \text{ m}$
- d. Perimeter of the square =  $4 \times \text{side}$   
 $= 4 \times 15 \text{ m } 20 \text{ cm}$   
 $= 60 \text{ m } 80 \text{ cm}$
5. Distance covered by Dev and Priya =  $5 \times \text{Perimeter of the triangular park}$   
 $= 5 \times (50 + 65 + 85) \text{ m}$   
 $= 5 \times 200 \text{ m}$   
 $= 1000 \text{ m} = 1 \text{ km}$

6. Perimeter of the rectangular plot =  $2 \times (50 + 40) \text{ m}$   
 $= 2 \times 90 \text{ m} = 180 \text{ m}$



Total cost of fencing =  $180 \times 100$   
 $= ₹ 18000$

### **EXERCISE 18B**

1. b. 16 sq cm    c. 12 sq cm    d. 16 sq cm    e. 17 sq cm    f. 16 sq cm
2. Find the area of a rectangle of sides :
- a. Area of rectangle =  $8 \text{ mm} \times 6 \text{ mm}$   
 $= 48 \text{ sq mm}$
- b. Area of rectangle =  $50 \text{ mm} \times 25 \text{ mm}$   
 $= 1250 \text{ sq mm}$
- c. Area of rectangle =  $110 \text{ cm} \times 50 \text{ cm}$   
 $= 5500 \text{ sq cm}$
- d. Area of rectangle =  $40 \text{ m} \times 20 \text{ m}$   
 $= 800 \text{ sq m}$
3. Find the area of a square of side:
- a. Area of the square =  $6 \text{ mm} \times 6 \text{ mm}$   
 $= 36 \text{ sq mm}$
- b. Area of the square =  $11 \text{ cm} \times 11 \text{ cm}$   
 $= 121 \text{ sq cm}$
- c. Area of the square =  $20 \text{ cm} \times 20 \text{ cm}$   
 $= 400 \text{ sq cm}$
- d. Area of the square =  $50 \text{ m} \times 50 \text{ m}$   
 $= 2500 \text{ sq m}$

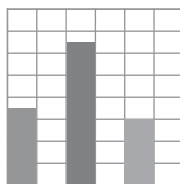
4. Area of the front cover =  $25 \text{ cm} \times 15 \text{ cm}$   
 $= 375 \text{ sq cm}$
5. Area of the cardboard =  $50 \text{ cm} \times 50 \text{ cm}$   
 $= 2500 \text{ sq cm}$   
 Area of the small square =  $5 \text{ cm} \times 5 \text{ cm}$   
 $= 25 \text{ sq cm}$   
 Number of small square pieces =  $2500 \div 25$   
 $= 100$
6. Area of the room =  $4 \text{ m} \times 3 \text{ m} = 12 \text{ sq m}$   
 Area of the carpet =  $3 \text{ m} \times 2 \text{ m} = 6 \text{ sq m}$   
 Area of the room left uncarpeted =  $12 \text{ sq m} - 6 \text{ sq m}$   
 $= 6 \text{ sq m}$
7. a. Area of tile =  $50 \text{ cm} \times 40 \text{ cm} = 2000 \text{ sq cm}$   
 Area of the room =  $20 \text{ sq m} = 20 \times 1000 \text{ sq cm}$   
 $= 20000 \text{ sq cm}$   
 Number of tiles required =  $20000 \div 2000$   
 $= 100$
- b. Price of 10 tiles = ₹ 500  
 Price of 1 tile = ₹  $(500 \div 10) = ₹ 50$   
 Price of 100 tiles = ₹  $50 \times 100$   
 $= ₹ 5000$

## Chapter 19 Data Handling

### EXERCISE 19

- |                           |     |    |
|---------------------------|-----|----|
| 1. Below 110 cm           | / / | 7  |
| Between 110 cm and 120 cm |     | 13 |
| Above 120 cm              | /   | 6  |

1 square = 2 students



Below 110 to Above  
110 cm 120 cm 120 cm

1. between 110 cm and 120 cm
2. above 120 cm
3. 1/2
4. 6

2. a. A to E, 12      b. U to Z, 2

3. a. food

b. Money spend on transport = ₹ 2000 +  $\frac{3}{4} \times ₹ 2000 = ₹ 2000 + ₹ 1500$   
= ₹ 3500

c. Total money spend =  $10 \times ₹ 2000 + \frac{1}{2} \times ₹ 2000 + \frac{3}{4} \times ₹ 2000 + \frac{1}{4} \times ₹ 2000$   
= ₹ 2000 + ₹ 1000 + ₹ 1500 + ₹ 500  
= ₹ 23000

d. Saving = ₹ 25000 - ₹ 23000  
= ₹ 2000

4. a. Weight of the apples sold by Ajay =  $6 \times 5 \text{ kg}$   
= 30 kg  
Weight of the apples sold by Vipin =  $5 \times 5 \text{ kg}$   
= 25 kg

Difference =  $30 \text{ kg} - 25 \text{ kg} = 5 \text{ kg}$   
Hence, Ajay sold 5 kg more apples.

b. Fruits sold by Ajay =  $6 + 3 + 3 = 12$   
Fruits sold by Vipin =  $5 + 3 + 5 = 13$   
Difference =  $13 - 12 = 1$

Hence, Vipin sold 1 fruit more than Ajay.

c. Fruits sold by Ajay in 3 days =  $12 \times 3 = 36$   
Fruits sold by Vipin in 3 days =  $13 \times 3 = 39$   
Difference =  $39 - 36 = 3$   
Difference in weight =  $3 \times 5 \text{ kg} = 15 \text{ kg}$

5. Do yourself.

### PRACTICE SHEET-5

1. Fill in.

a. polygon    b. quadrilateral    c. diameter    d.  $d = 2r = 2 \times 15 \text{ cm} = 30 \text{ cm}$   
e. radius    f. half.

2. Write 'true' or 'false'.

a. False    b. True    c. False    d. Perimeter =  $9 \text{ cm} + 12 \text{ cm} + 15 \text{ cm} = 36 \text{ cm}$ , True

3. Draw.

Do yourself

4. Find the perimeter and area of a rectangle of sides.

a. Perimeter =  $2 \times (7 + 5) \text{ mm}$     Area =  $7 \times 5 \text{ sq mm}$   
=  $2 \times 12 \text{ mm}$     =  $35 \text{ sq mm}$   
=  $24 \text{ mm}$

b. Perimeter  $= 2 \times (25 + 20)$  cm    Area  $= 25 \times 20$  sq cm  
 $= 2 \times 45$  cm                             $= 500$  sq cm  
 $= 90$  cm

c. Perimeter  $= 2 \times (28 + 12)$  m    Area  $= 28 \text{ m} \times 12$  m  
 $= 2 \times 40$  m                             $= 336$  sq m  
 $= 80$  m

5. Find the perimeter and area of a square of side.

a. Perimeter  $= 4 \times 6$  mm            Area  $= 6 \times 6$  sq mm  
 $= 24$  mm                                 $= 36$  sq mm


b. Perimeter  $= 4 \times 15$  cm            Area  $= 15 \times 15$  sq cm  
 $= 60$  cm                                 $= 225$  sq cm

c. Perimeter  $= 4 \times 33$  cm            Area  $= 33 \times 33$  sq cm  
 $= 132$  cm                                 $= 1089$  sq cm

d. Perimeter  $= 4 \times 55$  m            Area  $= 55 \times 55$  sq m  
 $= 220$  m                                 $= 3025$  sq m

6.

<b>Subject</b>	
Math	⊕ ⊕ ⊕
Soc. St.	⊕ ⊕ ⊕ ⊕ ⊕
English	⊕ ⊕
Science	⊕ ⊕ ⊕



= 4 students

