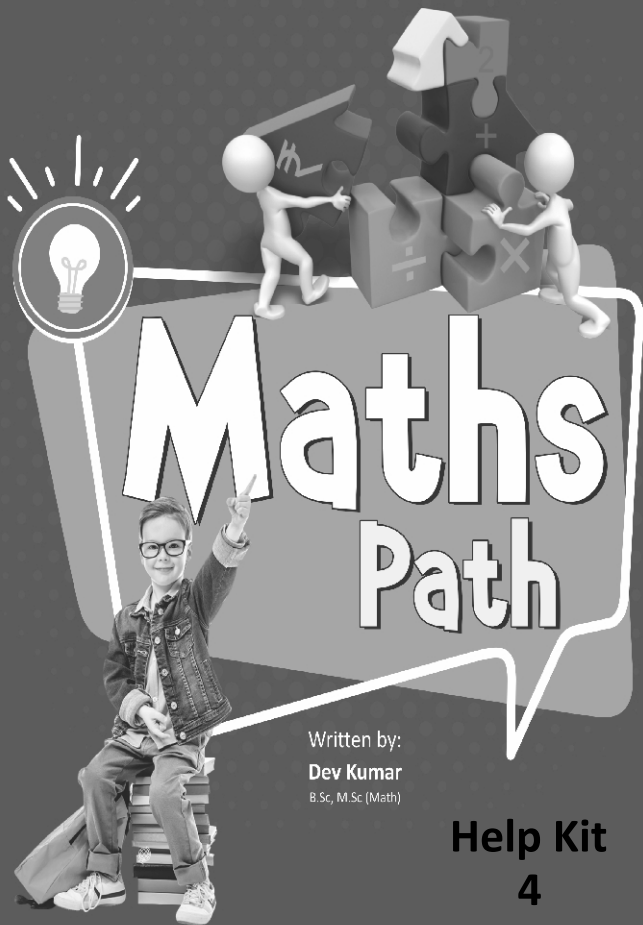




Based on the Syllabus prescribed by National Council
of Educational Research and Training (NCERT)



Maths Path

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Help Kit
4

Teacher's Manual

MATHEMATICS

Class-4

I. FIVE-DIGIT NUMBERS

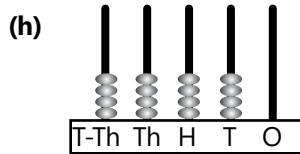
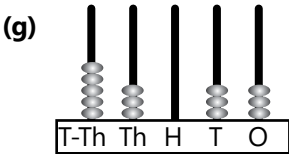
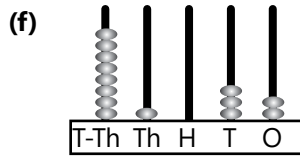
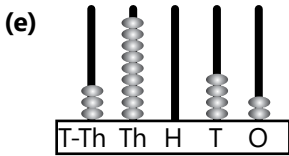
EXERCISE I.1

1. (a) Twenty-one thousand nine hundred eighty-seven
- (b) Nineteen thousand three hundred ninety-one
- (c) Thirty-six thousand nine
- (d) Ten thousand ninety-eight
- (e) Forty thousand thirty-nine
- (f) Forty-two thousand seven hundred ninety-eight
- (g) Eleven thousand seven
- (h) Thirty thousand twenty-nine

2. (a) 20250 (b) 17885 (c) 60405
- (d) 12469 (e) 83449

3. (a) (b)

(c) (d)



4. (a) 10 (b) 1 (c) 10
 (d) 100 (e) 10 (f) 10

5.

	Ten-Thousands	Thousands	Hundreds	Tens	Ones
a.	3	1	9	3	7
b.	1	9	9	3	2
c.	1	0	0	3	7
d.	3	6	2	7	6
e.	3	9	4	3	7
f.	2	4	1	8	7
g.	4	9	3	2	5
h.	1	0	3	7	5

6. (a) 9000 (b) 900
 (c) 90 (d) 90,000
7. (a) $30,000 + 1000 + 300 + 90$ (b) $40,000 + 1000 + 200 + 30 + 9$
 (c) $70,000 + 2000 + 900 + 20$ (d) $70,000 + 1000 + 20 + 7$
8. (a) 7097 (b) 8996
 (c) 19808 (d) 77707
9. (a) 12,006 (b) 17,897
 (c) 31,049 (d) 56,471

10. 10,000; 99,999

11. Number = 55,074

Place value of first five = 50000

Place value of second five = 5000

Difference of place values of both 5's = 50000 - 5000

= 45000

EXERCISE 1.2

1. (a) $25,919 + 1 = 25,920$

(c) $20,309 + 1 = 20,310$

(e) $47,899 + 1 = 47,900$

2. (a) $32,310 - 1 = 32,309$

(c) $27,900 - 1 = 27,899$

(e) $90,000 - 1 = 89,999$

(b) $17,699 + 1 = 17,700$

(d) $36,999 + 1 = 37,000$

(f) $79,999 + 1 = 80,000$

(b) $21,250 - 1 = 21,249$

(d) $47,000 - 1 = 46,999$

(f) $48,300 - 1 = 48,299$

3. (a) $\begin{array}{r} 11,249 \\ \text{(5-digits)} \end{array} > \begin{array}{r} 9,978 \\ \text{(4-digits)} \end{array}$

so, $11,249 > 9,978$

(c) $\begin{array}{r} 27,124 \\ \end{array} \begin{array}{r} 27,639 \\ \end{array}$
 $ \rightarrow 1 < 6 \leftarrow $

so, $27,124 < 27,639$

(e) $\begin{array}{r} 42,050 \\ \end{array} \begin{array}{r} 42,040 \\ \end{array}$
 $ \rightarrow 5 > 4 \leftarrow $

so, $42,050 > 42,040$

(g) $\begin{array}{r} 62,670 \\ \end{array} \begin{array}{r} 62,770 \\ \end{array}$
 $ \rightarrow 6 < 7 \leftarrow $

so, $62,670 < 62,770$

(b) $\begin{array}{r} 22,156 \\ \end{array} \begin{array}{r} 16,374 \\ \end{array}$
 $ \rightarrow 2 > 1 \leftarrow $

(d) $\begin{array}{r} 33,784 \\ \end{array} \begin{array}{r} 33,762 \\ \end{array}$
 $ \rightarrow 8 > 6 \leftarrow $

so, $33,784 > 33,762$

(f) $\begin{array}{r} 55,287 \\ \end{array} \begin{array}{r} 55,283 \\ \end{array}$
 $ \rightarrow 7 > 3 \leftarrow $

so, $55,287 > 55,283$

(f) $\begin{array}{r} 40,056 \\ \end{array} \begin{array}{r} 39,906 \\ \end{array}$
 $ \rightarrow 4 > 3 \leftarrow $

so, $40,056 > 39,906$

4. (a)

T-Th	Th	H	T	O
4	1	3	0	9
1	4	9	0	3
1	9	4	0	3

T-Th	Th	H	T	O
1	4	9	0	3
1	9	4	0	3

↓ ↘
same $4 < 9$

$1 < 4$
so, smallest number = 14903

(b)

T-Th	Th	H	T	O
6	5	6	0	6
	6	5	0	6
5	6	6	6	0

→ (4-digits)

so, smallest number = 6506

(c)

T-Th	Th	H	T	O
6	0	6	6	6
6	6	0	6	6
6	6	6	0	6

↓ ↘
same $0 < 6$

so, smallest number = 60666

(d)

T-Th	Th	H	T	O
4	5	0	6	9
7	3	1	4	1
4	1	1	3	5

T-Th	Th	H	T	O
4	5	0	6	9
4	1	1	3	5

↓ ↘
same $1 < 5$

$7 > 4$
so, 41135 is smallest number.

5. (a)

T-Th	Th	H	T	O
1	9	3	5	0
1	6	4	8	5
1	6	7	9	1

↓ ↘
same $9 > 6$

so, greatest number = 19350

(b)

T-Th	Th	H	T	O
2	2	7	1	7
2	3	7	1	7
	9	4	9	8

T-Th	Th	H	T	O
2	2	7	1	7
2	3	7	1	7

↓ same ↘ 3 > 2

4-digits
so, greatest number = 23717.

(c)

T-Th	Th	H	T	O
3	7	9	6	3
3	6	8	1	0
3	8	0	3	4

↓ same ↘ 8 > 7 > 6

so, 38034 is the greatest number.

(d)

T-Th	Th	H	T	O
4	1	0	5	2
4	2	1	1	1
4	2	0	0	1

T-Th	Th	H	T	O
4	2	1	1	1
4	2	0	0	1

↓ same ↓ same ↘ 1 > 0

same
so, 42111 is the greatest number.

6. (a)

T-Th	Th	H	T	O
3	1	0	9	3
3	1	0	3	9
3	9	0	3	1

T-Th	Th	H	T	O
3	1	0	9	3
3	1	0	3	9

↓ same ↓ same ↓ same ↘ 9 > 3

same

so, 39031 > 31093 > 31039.

(b)

T-Th	Th	H	T	O
5	0	0	5	0
5	0	5	0	0
	5	0	0	5

T-Th	Th	H	T	O
5	0	0	5	0
5	0	5	0	0

↓ same ↓ same ↘ 5 > 0

4-digits
∴ 5005 is smallest number. so, 50500 > 50050 > 5005

(c)

T-Th	Th	H	T	O
1	8	7	6	1
1	8	1	1	2
1	8	5	9	4

↓ ↓ ↘ 7 > 5 > 1
same same

so, 18761 > 18594 > 18112.

7. (a)

T-Th	Th	H	T	O
1	6	9	0	3
1	6	0	9	0
1	8	0	0	9

↓ ↘ 6 < 8
same

so, 16090 < 16903 < 18009.

T-Th	Th	H	T	O
1	6	9	0	3
1	6	0	9	0
1	6	0	9	0

↓ ↓ ↘ 0 < 9
same same

(b)

T-Th	Th	H	T	O
5	5	5	4	5
4	5	5	5	5
5	5	4	5	5

4 < 5

so, 45555 < 55455 < 55545.

T-Th	Th	H	T	O
5	5	5	4	5
5	5	4	5	5
5	5	4	5	5

↓ ↓ ↘ 4 < 5
same same

(c)

T-Th	Th	H	T	O
8	8	7	5	4
4	8	8	7	4
8	4	5	7	8

↓ ↘ 4 < 8

so, 48874 < 84578 < 88754.

EXERCISE 1.3

1. (a) 9, 7, 1, 2, 5

Decreasing order = 9, 7, 5, 2, 1

So biggest number = 97,521

Increasing order = 1, 2, 5, 7, 9

So smallest number = 12, 579

(b) 8, 5, 0, 3, 4

Decreasing order = 8, 5, 4, 3, 0

So biggest number = 85,430

Increasing order = 0, 3, 4, 5, 8

So smallest number = 30, 458

(c) 7, 4, 2, 1, 6

Decreasing order = 7, 6, 4, 2, 1

So biggest number = 76,421

Increasing order = 1, 2, 4, 6, 7

So smallest number = 12,467

(d) 5, 0, 3, 2, 4

Decreasing order = 5, 4, 3, 2, 0

So biggest number = 54,320

Increasing order = 0, 2, 3, 4, 5

So smallest number = 20,345

2. (a) 4, 2, 6, 0

Biggest number (Repeat the biggest digit) → 66,420

Smallest number (Repeat the smallest digit
after the second smallest digit) → 20,046

(b) 9, 5, 7, 3

Biggest number (Repeat the biggest digit) → 99,753

Smallest number (Repeat the smallest digit
after the second smallest digit) → 33,579

(c) 1, 3, 0, 6

Biggest number (Repeat the biggest digit) → 66,310

Smallest number (Repeat the smallest digit
after the second smallest digit) → 10,036

(d) 2, 4, 0, 9

Biggest number (Repeat the biggest digit) → 99,420

Smallest number (Repeat the smallest digit
after the second smallest digit) → 20,049

EXERCISE 1.4

1. (a) 8640, 8650, 8660, 8670, 8680, 8690

(b) 25,380; 25,390; 25,400; 25,410, 25,420; 25,430

2. (a) 8780, 8880, 8980, 9080, 9180, 9280

(b) 43,839; 43,939; 44,039; 44,139, 44,239; 44,339;

3. (a) 6274; 7274; 8274; 9274; 10,274; 11,274;

(b) 45,007; 46,007; 47,007; 48,007; 49,007; 50,007

2. ROMAN NUMERALS

EXERCISE 2.1

1. (a) VII

(b) IX

(c) XIII

(d) XVI

(e) XIX

(f) XXI

(g) XXX

(h) XXIV

(i) XXVIII

(j) XXXIV

(k) XXXIX

(l) XXIX

(m) XL

(n) XLVII

(o) LVII

(p) LXVIII

(q) LXXV

(r) LXXXIX

(s) XCVII

(t) C

(u) LIX

(v) LXXVIII

(w) LXV

(x) XLIII

2. (a) 3

(b) 7

(c) 4

(d) 9

(e) 16

(f) 19

(g) 24

(h) 29

- | | | | |
|--------|--------|--------|--------|
| (i) 34 | (j) 25 | (k) 42 | (l) 44 |
| (m) 39 | (n) 55 | (o) 76 | (p) 84 |
| (q) 90 | (r) 95 | (s) 48 | (t) 69 |
| (u) 94 | (v) 49 | (w) 99 | (x) 54 |

3. (b) (c) (f)

3. ADDITION OF NUMBERS

EXERCISE 3.1

- | | | |
|---------------|------------|------------|
| 1. (a) 13,000 | (b) 19,000 | (c) 70,000 |
| (d) 15,770 | (e) 16,596 | (f) 13,206 |
| (g) 13,034 | (h) 29,394 | (i) 30,574 |
| (j) 34,016 | (k) 40,138 | (l) 29,784 |
| (m) 100 | (n) 100 | (o) 660 |
| (p) 160 | (q) 600 | (r) 100 |
| (s) 200 | (t) 200 | (u) 580 |

EXERCISE 3.2

1. (a) 18 hundreds = 1 thousand 8 hundreds
 (b) 14 thousands 4 hundreds 3 tens
 (c) 6 ten-thousands 4 thousands 2 hundreds 7 tens
 (d) 4 ten-thousands 5 thousands 8 hundreds
 (e) 7 ten-thousands 1 thousand 5 hundreds 4 tens.

EXERCISE 3.3

- | | | | | | | | | | | | | |
|--------|-------|---|---|---|---|-----|-------|---|---|---|---|---|
| 1. (a) | Th | T | H | T | O | (b) | Th | T | H | T | O | |
| | 2 | 1 | 1 | 1 | | | 1 | 1 | □ | 1 | | |
| | 3 | 9 | 8 | 7 | 5 | | | 3 | 4 | 3 | 6 | |
| | + 2 | 6 | 0 | 2 | 3 | | + 4 | 0 | 0 | 0 | 5 | |
| | + 1 | 8 | 2 | 0 | 2 | | + 3 | 8 | 7 | 5 | 6 | |
| | <hr/> | 8 | 4 | 1 | 0 | 0 | <hr/> | 8 | 2 | 1 | 9 | 7 |

$$\begin{array}{r}
 \text{(c)} \quad \text{Th T H T O} \\
 \boxed{1} \ \boxed{1} \ \boxed{1} \ \boxed{1} \\
 1 \ 8 \ 0 \ 3 \ 6 \\
 + \quad \quad 7 \ 8 \ 0 \\
 \hline
 + 1 \ 7 \ 3 \ 5 \ 6 \\
 \hline
 3 \ 6 \ 1 \ 7 \ 2
 \end{array}$$

$$\begin{array}{r}
 \text{(d)} \quad \text{Th T H T O} \\
 \boxed{1} \ \boxed{1} \ \boxed{1} \ \boxed{1} \\
 \quad \quad \quad 4 \ 4 \ 8 \\
 + \quad 2 \ 3 \ 7 \ 1 \\
 + 3 \ 9 \ 8 \ 7 \ 4 \\
 \hline
 4 \ 2 \ 6 \ 9 \ 3
 \end{array}$$

$$\begin{array}{r}
 \text{(e)} \quad \text{Th T H T O} \\
 \boxed{1} \ \boxed{1} \ \boxed{1} \ \boxed{2} \\
 3 \ 4 \ 9 \ 3 \ 7 \\
 + \quad 5 \ 1 \ 2 \ 9 \\
 + 3 \ 1 \ 0 \ 7 \ 8 \\
 \hline
 7 \ 1 \ 1 \ 4 \ 4
 \end{array}$$

$$\begin{array}{r}
 \text{(f)} \quad \text{Th T H T O} \\
 \boxed{1} \ \boxed{2} \ \boxed{2} \ \boxed{2} \\
 8 \ 8 \ 8 \ 8 \ 8 \\
 + \quad 9 \ 9 \ 9 \ 9 \\
 + \quad \quad 7 \ 7 \ 7 \\
 \hline
 9 \ 9 \ 6 \ 6 \ 4
 \end{array}$$

$$\begin{array}{r}
 \text{(g)} \quad \text{Th T H T O} \\
 \boxed{1} \ \boxed{1} \ \boxed{1} \ \boxed{2} \\
 3 \ 9 \ 1 \ 4 \ 8 \\
 + \quad 4 \ 1 \ 8 \ 7 \\
 + 2 \ 5 \ 8 \ 1 \ 4 \\
 \hline
 6 \ 9 \ 1 \ 4 \ 9
 \end{array}$$

$$\begin{array}{r}
 \text{(f)} \quad \text{Th T H T O} \\
 \quad \quad \boxed{1} \ \boxed{1} \ \boxed{1} \\
 1 \ 2 \ 7 \ 3 \ 1 \\
 + 5 \ 3 \ 2 \ 1 \ 5 \\
 + 1 \ 0 \ 7 \ 8 \ 4 \\
 \hline
 7 \ 6 \ 7 \ 3 \ 0
 \end{array}$$

$$\begin{array}{r}
 \text{(i)} \quad \text{Th T H T O} \\
 \boxed{1} \ \boxed{1} \ \boxed{1} \\
 4 \ 0 \ 1 \ 6 \ 2 \\
 + \quad 2 \ 9 \ 8 \ 0 \\
 + \quad 9 \ 1 \ 2 \ 3 \\
 \hline
 5 \ 2 \ 2 \ 6 \ 5
 \end{array}$$

$$\begin{array}{r}
 \text{(j)} \quad \text{Th T H T O} \\
 \boxed{2} \ \boxed{1} \ \boxed{1} \ \boxed{1} \\
 2 \ 8 \ 2 \ 5 \ 3 \\
 2 \ 4 \ 5 \ 6 \ 3 \\
 + \quad 8 \ 4 \ 4 \ 5 \\
 \hline
 6 \ 1 \ 2 \ 6 \ 1
 \end{array}$$

$$\begin{array}{r}
 \text{(k)} \quad \text{Th T H T O} \\
 \boxed{2} \ \boxed{1} \quad \quad \boxed{1} \\
 2 \ 9 \ 1 \ 1 \ 6 \\
 5 \ 6 \ 9 \ 2 \ 7 \\
 + \quad 5 \ 3 \ 0 \ 2 \\
 \hline
 9 \ 1 \ 3 \ 4 \ 5
 \end{array}$$

$$\begin{array}{r}
 \text{(l)} \quad \text{Th T H T O} \\
 \boxed{1} \ \boxed{1} \ \boxed{1} \ \boxed{1} \\
 2 \ 3 \ 9 \ 5 \ 7 \\
 3 \ 4 \ 6 \ 2 \ 0 \\
 + \quad 9 \ 3 \ 3 \ 6 \\
 \hline
 6 \ 7 \ 9 \ 1 \ 3
 \end{array}$$

$$\begin{array}{r}
 \boxed{1} \ \boxed{1} \ \boxed{1} \ \boxed{1} \\
 2 \ 8 \ 4 \ 8 \ 9 \downarrow \\
 + 3 \ 1 \ 7 \ 2 \ 3 \downarrow \\
 \hline
 6 \ 0 \ 2 \ 1 \ 2
 \end{array}$$

$$\begin{array}{r}
 \boxed{1} \ \boxed{1} \ \boxed{1} \ \boxed{1} \\
 2 \ 8 \ 4 \ 8 \ 9 \downarrow \\
 + 3 \ 1 \ 7 \ 2 \ 3 \downarrow \\
 \hline
 6 \ 0 \ 2 \ 1 \ 2
 \end{array}$$

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

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

EXERCISE 3.4

$$\begin{array}{r}
 \boxed{1} \ \boxed{2} \ \boxed{2} \ \boxed{2} \\
 1. \text{ No. of cows} = 2 \ 3 \ 4 \ 7 \ 8 \\
 \text{No. of buffaloes} = 2 \ 7 \ 9 \ 7 \ 8 \\
 \text{No. of goats} = + 1 \ 3 \ 7 \ 6 \ 5 \\
 \text{Total milking animals} = \underline{6 \ 5 \ 2 \ 2 \ 1}
 \end{array}$$

$$\begin{array}{r}
 \boxed{1} \ \boxed{1} \ \boxed{1} \\
 2. \text{ Spent on air travels} = ₹ 3 \ 5 \ 5 \ 6 \ 1 \\
 \text{Spent on hotel sight seeing} = ₹ 3 \ 4 \ 3 \ 5 \ 0 \\
 \text{Spent on purchasing gifts} = ₹ 2 \ 5 \ 4 \ 5 \ 0 \\
 \text{Total spent} = \underline{₹ 9 \ 5 \ 3 \ 6 \ 1}
 \end{array}$$

$$\begin{array}{r}
 \boxed{1} \ \boxed{1} \ \boxed{1} \ \boxed{1} \\
 3. \text{ Lemon bottles} = 1 \ 3 \ 4 \ 6 \ 7 \\
 \text{Orange bottles} = 5 \ 7 \ 8 \ 4 \\
 \text{Cola bottles} = + 2 \ 8 \ 5 \ 4 \ 3 \\
 \text{Total bottles} = \underline{4 \ 7 \ 7 \ 9 \ 4}
 \end{array}$$

$$\begin{array}{r}
 \boxed{1} \ \boxed{1} \ \boxed{1} \ \boxed{1} \\
 4. \text{ No. of rice bags} = 2 \ 2 \ 5 \ 2 \ 8 \\
 \text{No. of wheat bags} = 1 \ 5 \ 3 \ 4 \ 5 \\
 \text{No. of sugar bags} = + 8 \ 9 \ 7 \ 5 \\
 \text{Total no. of bags} = \underline{4 \ 6 \ 8 \ 4 \ 8}
 \end{array}$$

$$\begin{array}{r}
 \boxed{1} \boxed{1} \boxed{1} \\
 5. \text{ Seats in a stadium} = 1 \ 5 \ 7 \ 5 \ 0 \\
 \text{More seats arranged} = + 6 \ 8 \ 5 \ 0 \\
 \hline
 \text{Total seats now} = 2 \ 2 \ 6 \ 0 \ 0
 \end{array}$$

$$\begin{array}{r}
 \boxed{1} \boxed{1} \boxed{1} \\
 6. \text{ Account balance of Sarah} = ₹ 1 \ 2 \ 3 \ 7 \ 5 \\
 \text{She deposited more} = + ₹ 1 \ 5 \ 7 \ 9 \ 5 \\
 \hline
 \text{Total amount now} = ₹ 2 \ 8 \ 1 \ 7 \ 0
 \end{array}$$

$$\begin{array}{r}
 \boxed{1} \boxed{1} \boxed{1} \\
 7. \text{ No. of books in a library} = 2 \ 4 \ 5 \ 7 \ 3 \\
 \text{New books added} = + 9 \ 7 \ 6 \ 5 \\
 \hline
 \text{Total books now} = 3 \ 4 \ 3 \ 3 \ 8
 \end{array}$$

$$\begin{array}{r}
 8. \text{ Cost of a computer} = ₹ 26785 \\
 \text{Cost of a motor cycle} = ₹ 26785 + ₹ 14475 \\
 \boxed{1} \boxed{1} \boxed{1} \boxed{1} \\
 2 \ 6 \ 7 \ 8 \ 5 \\
 + 1 \ 4 \ 4 \ 7 \ 5 \\
 \hline
 4 \ 1 \ 2 \ 6 \ 0
 \end{array}$$

Total cost of a computer and a motorcycle

$$\begin{array}{r}
 \boxed{1} \boxed{1} \\
 2 \ 6 \ 7 \ 8 \ 5 \\
 + 4 \ 1 \ 2 \ 6 \ 0 \\
 \hline
 6 \ 8 \ 0 \ 4 \ 5
 \end{array}
 \begin{array}{l}
 = ₹ 26785 + ₹ 41260 \\
 = ₹ 68045
 \end{array}$$

$$\begin{array}{r}
 \boxed{1} \quad \boxed{1} \boxed{1} \\
 9. \text{ No. of boys} = 4 \ 5 \ 3 \ 6 \ 7 \\
 \text{No. of girls} = + 3 \ 9 \ 1 \ 8 \ 4 \\
 \hline
 \text{Total students} = 8 \ 4 \ 5 \ 5 \ 1
 \end{array}$$

$$\begin{array}{r}
 \boxed{1} \boxed{2} \boxed{2} \boxed{1} \\
 10. \text{ Valid voters} \quad = \quad 6 \ 4 \ 2 \ 3 \ 5 \\
 \text{Rejected voters} \quad = \quad \quad 2 \ 7 \ 9 \ 6 \\
 \text{Voters who did not vote} \quad = \quad + \ 7 \ 9 \ 8 \ 5 \\
 \text{Total no. of voters} \quad = \quad \underline{\underline{7 \ 5 \ 0 \ 1 \ 6}}
 \end{array}$$

$$\begin{array}{r}
 \boxed{1} \boxed{1} \boxed{1} \boxed{1} \\
 11. \text{ No. of men} \quad = \quad 2 \ 7 \ 4 \ 1 \ 6 \\
 \text{No. of women} \quad = \quad \quad 2 \ 8 \ 5 \ 7 \ 8 \\
 \text{No. of children} \quad = \quad + \ 4 \ 3 \ 8 \ 1 \ 0 \\
 \text{Total population} \quad = \quad \underline{\underline{9 \ 9 \ 8 \ 0 \ 4}}
 \end{array}$$

$$\begin{array}{r}
 12. \text{ Number required} \quad = \quad 69845 + 27462 \\
 \quad \quad \quad \quad \quad \quad = \quad 97307
 \end{array}$$

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

$$\begin{array}{r}
 13. \text{ Number required} \quad = \quad 53462 + 5786 \\
 \quad \quad \quad \quad \quad \quad = \quad 59248
 \end{array}$$

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

$$\begin{array}{r}
 14. \text{ Number required} \quad = \quad 23654 + 7348 \\
 \quad \quad \quad \quad \quad \quad = \quad 31002
 \end{array}$$

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

4. SUBTRACTION OF NUMBERS

EXERCISE 4.I

1. (a) 35,286 (b) 52,657 (c) 17,638 (d) 19,684
 (e) 7000 (f) 30,000 (g) 23,216 (h) 33,57

EXERCISE 4.2

1. (a) $5 \text{ tens} + 7 \text{ ones} = 4 \text{ tens} + 1 \text{ tens} + 7 \text{ ones}$
 $= 4 \text{ tens} + 10 \text{ ones} + 7 \text{ ones}$
 $= 4 \text{ tens} + \boxed{17} \text{ ones}$
- (b) $6 \text{ hundreds} + 4 \text{ tens}$
 $= 5 \text{ hundreds} + 1 \text{ hundred} + 4 \text{ tens}$
 $= 5 \text{ hundreds} + 10 \text{ tens} + 4 \text{ tens}$
 $= 5 \text{ hundreds} + \boxed{14} \text{ tens}$
- (c) $9 \text{ thousands} + 7 \text{ hundreds}$
 $= 8 \text{ thousands} + 1 \text{ thousands} + 7 \text{ hundreds}$
 $= 8 \text{ thousands} + 10 \text{ hundreds} + 7 \text{ hundreds}$
 $= 8 \text{ thousands} + \boxed{17} \text{ hundreds}$
- (d) $4 \text{ ten-thousands} + 5 \text{ thousands}$
 $= 3 \text{ ten-thousands} + 1 \text{ ten-thousands} + 5 \text{ thousands}$
 $= 3 \text{ ten-thousands} + 10 \text{ thousands} + 5 \text{ thousands}$
 $= 3 \text{ ten-thousands} + \boxed{15} \text{ thousands}$
- (e) $6 \text{ thousands} + 5 \text{ tens}$
 $= 5 \text{ thousands} + 1 \text{ thousands} + 5 \text{ tens}$
 $= 5 \text{ thousands} + 10 \text{ hundreds} + 5 \text{ tens}$
 $= 5 \text{ thousands} + 9 \text{ hundreds} + 1 \text{ hundreds} + 5 \text{ tens}$
 $= 5 \text{ thousands} + 9 \text{ hundreds} + 10 \text{ tens} + 5 \text{ tens}$
 $= 5 \text{ thousands} + \boxed{9} \text{ hundreds} + \boxed{15} \text{ tens}$
2. (a) 8876 (b) 19889 (c) 16489
(d) 62895 (e) 26039 (f) 26631
(g) 25889 (h) 48889 (i) 42828
(j) 4263 (k) 17814 (l) 17638

$$\begin{array}{r} 3. \text{ (a)} \quad 6 \ 0 \ 0 \ 0 \ 0 \\ - 2 \ 1 \ 5 \ 4 \ 6 \\ \hline 3 \ 8 \ 4 \ 5 \ 4 \end{array}$$

$$\begin{array}{r} \text{(b)} \quad 5 \ 3 \ 8 \ 9 \ 5 \\ - 2 \ 3 \ 3 \ 5 \ 9 \\ \hline 3 \ 0 \ 5 \ 3 \ 6 \end{array}$$

$$\begin{array}{r} \text{(c)} \quad 7 \ 0 \ 0 \ 0 \ 0 \\ - 3 \ 4 \ 1 \ 4 \ 5 \\ \hline 3 \ 5 \ 8 \ 5 \ 5 \end{array}$$

$$\begin{array}{r} \text{(d)} \quad 5 \ 3 \ 0 \ 2 \ 9 \\ - 1 \ 8 \ 5 \ 3 \ 7 \\ \hline 3 \ 4 \ 4 \ 9 \ 2 \end{array}$$

$$\begin{array}{r} \text{(e)} \quad 7 \ 1 \ 0 \ 4 \ 3 \\ - 3 \ 2 \ 9 \ 5 \ 4 \\ \hline 3 \ 8 \ 0 \ 8 \ 9 \end{array}$$

$$\begin{array}{r} \text{(f)} \quad 9 \ 0 \ 7 \ 1 \ 7 \\ - 6 \ 8 \ 9 \ 8 \ 0 \\ \hline 2 \ 1 \ 7 \ 3 \ 7 \end{array}$$

$$\begin{array}{r} 4. \text{ (a)} \quad 2 \ 0 \ 0 \ 0 \ 1 \\ - 9 \ 8 \ 7 \ 6 \\ \hline 1 \ 0 \ 1 \ 2 \ 5 \end{array}$$

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

$$\begin{array}{r} \text{(c)} \quad 8 \ 1 \ 0 \ 0 \ 1 \\ - 9 \ 9 \ 9 \ 9 \\ \hline 7 \ 1 \ 0 \ 0 \ 2 \end{array}$$

$$\begin{array}{r} 5. \text{ (a)} \quad 7 \ 8 \ 6 \ 3 \ 9 \\ - 5 \ 5 \ 0 \ 3 \ 4 \\ \hline 2 \ 4 \ 6 \ 0 \ 5 \end{array}$$

$$\begin{array}{r} \text{(b)} \quad 9 \ 7 \ 8 \ 6 \ 3 \\ - 1 \ 5 \ 4 \ 3 \ 2 \\ \hline 8 \ 2 \ 4 \ 3 \ 1 \end{array}$$

$$\begin{array}{r} \text{(c)} \quad 6 \ 3 \ 8 \ 9 \ 8 \\ - 4 \ 0 \ 5 \ 7 \ 6 \\ \hline 2 \ 3 \ 3 \ 2 \ 2 \end{array}$$

$$\begin{array}{r} \text{so,} \quad 7 \ 8 \ 6 \ 3 \ 9 \\ - \boxed{24605} \\ \hline 5 \ 4 \ 0 \ 3 \ 4 \end{array}$$

$$\begin{array}{r} \text{so,} \quad 9 \ 7 \ 8 \ 6 \ 3 \\ - \boxed{82431} \\ \hline 1 \ 5 \ 4 \ 3 \ 2 \end{array}$$

$$\begin{array}{r} \text{so,} \quad 6 \ 3 \ 8 \ 9 \ 8 \\ - \boxed{23322} \\ \hline 4 \ 0 \ 5 \ 7 \ 6 \end{array}$$

$$\begin{array}{r} 6. \text{ Smallest no. of five digits} = 1 \ 0 \ 0 \ 0 \ 0 \\ \text{Greatest no. of three digits} = - \ 9 \ 9 \ 9 \\ \text{So, difference} = \underline{\underline{9 \ 0 \ 0 \ 1}} \end{array}$$

EXERCISE 4.3

$$\begin{array}{r} 1. \text{ Population of town} = 8 \ 6 \ 4 \ 2 \ 8 \\ \text{No. of females} = - \ 4 \ 7 \ 0 \ 3 \ 9 \\ \text{So, no. of males} = \underline{\underline{3 \ 9 \ 3 \ 8 \ 9}} \quad \text{Ans.} \end{array}$$

$$\begin{array}{r} 2. \text{ Account balance of Alice} = ₹ \ 5 \ 0 \ 7 \ 0 \ 0 \\ \text{She withdrew} = - ₹ \ 3 \ 4 \ 9 \ 5 \ 0 \\ \text{Now amount left} = \underline{\underline{₹ \ 1 \ 5 \ 7 \ 5 \ 0}} \quad \text{Ans.} \end{array}$$

$$\begin{array}{r}
 \text{3. Price of a scooter} \quad = \quad ₹ \ 3 \ 8 \ 7 \ 5 \ 0 \\
 \text{Price of a motorcycle} \quad = \quad - \quad ₹ \ 5 \ 2 \ 5 \ 0 \ 0 \\
 \text{So, motorcycle costs more.} \quad = \quad \text{Ans.} \\
 \text{More price} \quad = \quad ₹ \ 5 \ 2 \ 5 \ 0 \ 0 \\
 \quad \quad \quad \quad \quad \quad \quad \quad - \quad ₹ \ 3 \ 8 \ 7 \ 5 \ 0 \\
 \quad \quad \quad \quad \quad \quad \quad \quad \hline
 \quad \quad \quad \quad \quad \quad \quad \quad ₹ \ 1 \ 3 \ 7 \ 5 \ 0 \text{ Ans.}
 \end{array}$$

$$\begin{array}{r}
 \text{4. No. of trees planted} \quad = \quad 2 \ 8 \ 1 \ 2 \ 3 \\
 \text{No. of trees destroyed} \quad = \quad - \quad 9 \ 2 \ 4 \ 5 \\
 \text{So, no. of trees left} \quad = \quad \hline
 \quad \quad \quad \quad \quad \quad \quad \quad 1 \ 8 \ 8 \ 7 \ 8 \text{ trees} \\
 \quad \quad \quad \quad \quad \quad \quad \quad \text{Ans.}
 \end{array}$$

$$\begin{array}{r}
 \text{5. Population increase} \quad = \quad 5 \ 4 \ 3 \ 8 \ 9 \\
 \quad \quad \quad \quad \quad \quad \quad \quad = \quad - \quad 2 \ 6 \ 4 \ 5 \ 6 \\
 \quad \quad \quad \quad \quad \quad \quad \quad \hline
 \quad \quad \quad \quad \quad \quad \quad \quad 2 \ 7 \ 9 \ 3 \ 3 \text{ Ans.}
 \end{array}$$

$$\begin{array}{r}
 \text{6. No. of bottles of milk} \quad = \quad 3 \ 0 \ 0 \ 0 \ 0 \\
 \text{No. of bottles sold} \quad = \quad - \quad 2 \ 3 \ 1 \ 2 \ 5 \\
 \text{No. of bottles left} \quad = \quad \hline
 \quad \quad \quad \quad \quad \quad \quad \quad 6 \ 8 \ 7 \ 5 \text{ bottles} \\
 \quad \quad \quad \quad \quad \quad \quad \quad \text{Ans.}
 \end{array}$$

$$\begin{array}{r}
 \text{7. Total printed books} \quad = \quad 2 \ 2 \ 0 \ 0 \ 0 \\
 \text{No. of books left} \quad = \quad - \quad 4 \ 1 \ 2 \\
 \text{So, no. of books sold} \quad = \quad \hline
 \quad \quad \quad \quad \quad \quad \quad \quad 2 \ 1 \ 5 \ 8 \ 8 \text{ books} \\
 \quad \quad \quad \quad \quad \quad \quad \quad \text{Ans.}
 \end{array}$$

$$\begin{array}{r}
 \text{8. Total students in exam} \quad = \quad 7 \ 1 \ 8 \ 5 \ 5 \\
 \text{Failed students} \quad = \quad - \quad 2 \ 7 \ 9 \ 6 \ 8 \\
 \text{So, passed students} \quad = \quad \hline
 \quad \quad \quad \quad \quad \quad \quad \quad 4 \ 3 \ 8 \ 8 \ 7 \\
 \quad \quad \quad \quad \quad \quad \quad \quad \text{students Ans.}
 \end{array}$$

$$\begin{array}{r}
 \text{9. Smaller number} \quad = \quad 3 \ 5 \ 0 \ 7 \ 2 \\
 \quad \quad \quad \quad \quad \quad \quad \quad = \quad - \quad 1 \ 6 \ 8 \ 9 \ 5 \\
 \quad \quad \quad \quad \quad \quad \quad \quad \hline
 \quad \quad \quad \quad \quad \quad \quad \quad 1 \ 8 \ 1 \ 7 \ 7 \text{ Ans.}
 \end{array}$$

$$\begin{array}{r}
 \text{10. Number required} \quad = \quad 6 \ 1 \ 1 \ 3 \ 2 \\
 = - \quad 2 \ 7 \ 8 \ 9 \ 6 \\
 = \quad \underline{\underline{3 \ 3 \ 2 \ 3 \ 6}} \text{ Ans.}
 \end{array}$$

$$\begin{array}{r}
 \text{11. Sum of two nos.} \quad = \quad 9 \ 1 \ 1 \ 2 \ 1 \\
 \text{One number} \quad = - \quad 4 \ 8 \ 5 \ 6 \ 5 \\
 \text{So, second number} \quad = \quad \underline{\underline{4 \ 2 \ 5 \ 5 \ 6}} \text{ Ans.}
 \end{array}$$

$$\begin{array}{r}
 \text{12. Total no. of trees} \quad = \quad 4 \ 6 \ 7 \ 8 \ 4 \\
 \text{No. of teak trees} \quad = - \quad 2 \ 8 \ 8 \ 9 \ 5 \\
 \therefore \text{ other trees} \quad = \quad \underline{\underline{1 \ 7 \ 8 \ 8 \ 9}} \text{ trees} \\
 \text{Ans.}
 \end{array}$$

$$\begin{array}{r}
 \text{13. Total cost of scooty} \quad = \quad ₹ \ 3 \ 7 \ 0 \ 0 \ 0 \\
 \text{Sarah needed 18121 more than the money she had.} \\
 \therefore \text{ She had} \quad = \quad 3 \ 7 \ 0 \ 0 \ 0 \\
 \quad \quad \quad \quad \quad - \quad 1 \ 8 \ 1 \ 2 \ 1 \\
 \quad \quad \quad \quad \quad \underline{\underline{₹ \ 1 \ 8 \ 8 \ 7 \ 9}} \text{ Ans.}
 \end{array}$$

$$\begin{array}{r}
 \text{14. Total no. of apples in orchard} = \quad 6 \ 4 \ 2 \ 8 \ 0 \text{ apples} \\
 \text{Picked from trees} \quad = \quad 3 \ 9 \ 7 \ 4 \ 0 \text{ apples} \\
 \text{Fell down} \quad = \quad 5 \ 4 \ 7 \ 6 \ \text{apples} \\
 \text{So, apples left on trees} = 6 \ 4 \ 5 \ 8 \ 0 - (39740 + 5476) \\
 = 6 \ 4 \ 2 \ 8 \ 0 - 45216 \\
 = 19064 \text{ apples Ans.}
 \end{array}$$

$$\begin{array}{r}
 \text{15. No. of bags to be loaded} \quad = \quad 3 \ 5 \ 0 \ 0 \ 0 \ \text{bags} \\
 \text{On first day, no. of bags loaded} = - \quad 1 \ 5 \ 9 \ 8 \ 0 \ \text{bags} \\
 \text{No. of bags loaded on next day} = \quad \underline{\underline{1 \ 9 \ 0 \ 2 \ 0}} \text{bags}
 \end{array}$$

5. MULTIPLICATION OF NUMBERS

EXERCISE 5.1

1. (a) 21430 (b) 14800 (c) 99000 (d) 56000
 (e) 45000 (f) 0 (g) 90000 (h) 12600
 (i) 8100 (j) 90000 (k) 85000 (l) 3000
 (m) 93000 (n) 60000 (o) 75000
2. Total no. of students = 50 students
 Monthly fee of 1 student = ₹ 500
 \therefore Monthly fee of 50 students = ₹ 500 \times 50
 = ₹ 25000 Ans.
3. Mary has 60 notes of ₹ 500 each.
 So, she have = ₹ 500 \times 60
 = ₹ 30000 Ans.
4. A packet contains = 200 toffees
 \therefore 40 packets contains = (200 \times 40) toffees
 = 8000 toffees Ans.
5. The cost of one tricycle = ₹ 400
 \therefore Cost of 30 such tricycles = ₹ 400 \times 30
 = ₹ 12000 Ans.

EXERCISE 5.2

1. (a)

Th	H	T	O
5	3	2	
2	8	4	3
× 7			
1 4 9 0 1			

 Ans.
- (b)

Th	H	T	O
7	2	4	
4	9	2	6
× 8			
3 9 4 0 8			

 Ans.
- (c)

Th	H	T	O
3	2		
6	0	7	4
× 5			
3 0 3 7 0			

 Ans.
- (d)

Th	H	T	O
7	1		
4	0	8	2
× 9			
3 6 7 3 8			

 Ans.

$$\begin{array}{r}
 \text{(e)} \quad \begin{array}{cccc} \text{Th} & \text{H} & \text{T} & \text{O} \\ & \boxed{3} & \boxed{1} & \boxed{1} \\ & 8 & 7 & 3 & 2 \\ & & & \times 5 \\ \hline & 4 & 3 & 6 & 6 & 0 \end{array} \text{ Ans.}
 \end{array}$$

$$\begin{array}{r}
 \text{(f)} \quad \begin{array}{cccc} \text{Th} & \text{H} & \text{T} & \text{O} \\ & \boxed{2} & \boxed{1} & \\ & 7 & 0 & 5 & 4 \\ & & & \times 4 \\ \hline & 2 & 8 & 2 & 1 & 6 \end{array} \text{ Ans.}
 \end{array}$$

$$\begin{array}{r}
 \text{(g)} \quad \begin{array}{cccc} \text{Th} & \text{H} & \text{T} & \text{O} \\ & \boxed{1} & \boxed{3} & \boxed{3} \\ & 3 & 1 & 4 & 4 \\ & & & \times 9 \\ \hline & 2 & 8 & 2 & 9 & 6 \end{array} \text{ Ans.}
 \end{array}$$

$$\begin{array}{r}
 \text{(h)} \quad \begin{array}{cccc} \text{Th} & \text{H} & \text{T} & \text{O} \\ & \boxed{4} & \boxed{4} & \\ & 9 & 6 & 7 & 1 \\ & & & \times 6 \\ \hline & 5 & 8 & 0 & 2 & 6 \end{array} \text{ Ans.}
 \end{array}$$

(i) to (p) → Do it yourself.

EXERCISE 5.3

$$\begin{array}{r}
 \text{(a)} \quad \begin{array}{r} \boxed{2} \ \boxed{6} \quad \leftarrow \text{carry (multiplication by ones)} \\ 1 \ 2 \ 8 \\ \times 1 \ 8 \\ \hline 1 \ 0 \ 2 \ 4 \\ 1 \ 2 \ 8 \ 0 \\ \hline 2 \ 3 \ 0 \ 4 \end{array} \text{ Ans.}
 \end{array}$$

$$\begin{array}{r}
 \text{(b)} \quad \begin{array}{r} \boxed{1} \ \boxed{1} \quad \leftarrow \text{carry (multiplication by tens)} \\ \boxed{2} \ \boxed{3} \quad \leftarrow \text{carry (multiplication by ones)} \\ 1 \ 5 \ 6 \\ \times 2 \ 5 \\ \hline 7 \ 8 \ 0 \\ 3 \ 1 \ 2 \ 0 \\ \hline 3 \ 9 \ 0 \ 0 \end{array} \text{ Ans.}
 \end{array}$$

$$\begin{array}{r}
 \text{(c)} \quad \begin{array}{r} \boxed{1} \ \boxed{3} \quad \leftarrow \text{carry (multiplication by tens)} \\ \boxed{1} \quad \leftarrow \text{carry (multiplication by ones)} \\ 2 \ 4 \ 8 \\ \times 4 \ 2 \\ \hline 4 \ 9 \ 6 \\ 9 \ 9 \ 2 \ 0 \\ \hline 1 \ 0 \ 4 \ 1 \ 6 \end{array} \text{ Ans.}
 \end{array}$$

(d) to (h) → Do it yourself.

(i) $\begin{array}{r} \boxed{1} \boxed{2} \boxed{2} \quad \leftarrow \text{carry (multiplication by tens)} \\ \boxed{2} \boxed{5} \boxed{4} \quad \leftarrow \text{carry (multiplication by ones)} \\ 1 \ 3 \ 6 \ 5 \\ \times \ 4 \ 8 \\ \hline 1 \ 0 \ 9 \ 2 \ 0 \\ 5 \ 4 \ 6 \ 0 \ 0 \\ \hline 6 \ 5 \ 5 \ 2 \ 0 \end{array}$ Ans.

(j) $\begin{array}{r} \boxed{1} \boxed{1} \quad \leftarrow \text{carry (multiplication by tens)} \\ \boxed{2} \boxed{2} \boxed{1} \quad \leftarrow \text{carry (multiplication by ones)} \\ 2 \ 3 \ 4 \ 2 \\ \times \ 3 \ 6 \\ \hline 1 \ 4 \ 0 \ 5 \ 2 \\ 7 \ 0 \ 2 \ 6 \ 0 \\ \hline 8 \ 4 \ 3 \ 1 \ 2 \end{array}$ Ans.

(k) $\begin{array}{r} 4 \ 4 \ 2 \ 4 \\ \times \ 2 \ 2 \\ \hline 8 \ 8 \ 4 \ 8 \\ 8 \ 8 \ 4 \ 8 \ 0 \\ \hline 9 \ 7 \ 3 \ 2 \ 8 \end{array}$ Ans.

(l) $\begin{array}{r} \boxed{1} \boxed{1} \boxed{1} \quad \leftarrow \text{carry (multiplication by tens)} \\ \boxed{8} \boxed{8} \boxed{5} \quad \leftarrow \text{carry (multiplication by ones)} \\ 2 \ 8 \ 9 \ 6 \\ \times \ 2 \ 9 \\ \hline 2 \ 6 \ 0 \ 6 \ 4 \\ 5 \ 7 \ 9 \ 2 \ 0 \\ \hline 8 \ 3 \ 9 \ 8 \ 4 \end{array}$ Ans.

(m) to (x) → Do it yourself.

EXERCISE 5.4

(a)

1	2	← carry (multiplication by tens)	
	1	3	← carry (multiplication by ones)
		1 3 6	
×	1 4 5		
		6 8 0	
		5 4 4 0	
		1 3 6 0 0	
		1 9 7 2 0	Ans.

(b)

2	1	← carry (multiplication by tens)	
	1	← carry (multiplication by ones)	
		1 5 2	
×	1 5 3		
		4 5 6	
		7 6 0 0	
		1 5 2 0 0	
		2 3 2 5 6	Ans.

(c) → Do it yourself.

(d)

1		← carry (multiplication by hundreds)	
	1	← carry (multiplication by tens)	
	2	1	← carry (multiplication by ones)
		1 6 4	
×	2 2 4		
		6 5 6	
		3 2 8 0	
		3 2 8 0 0	
		3 6 7 3 6	Ans.

(e) and (f) → Do it yourself.

(g)
$$\begin{array}{r}
 \boxed{1} \boxed{1} \quad \leftarrow \text{carry (multiplication by hundreds)} \\
 \boxed{5} \boxed{3} \quad \leftarrow \text{carry (multiplication by tens)} \\
 \boxed{2} \boxed{1} \quad \leftarrow \text{carry (multiplication by ones)} \\
 295 \\
 \hline
 \times 263 \\
 \hline
 885 \\
 17700 \\
 59000 \\
 \hline
 77585
 \end{array}$$

Ans.

(h) to (t) → Do it yourself.

EXERCISE 5.5

1. One carton has = 144 ball pens
 368 cartons have = 144×368 ball pens
 = 52,992 ball pens.
2. One bag contains = 98 kg. of wheat
 990 bags contain = 990×98 kg. of wheat
 = 97020 kg. of wheat
3. One box contains = 128 mangoes
 485 boxes contain = 128×485 mangoes
 = 62080 mangoes
4. One carton has = 324 balls
 295 cartons have = 324×295 balls
 = 95580 balls.
5. One shirt costs = ₹ 255
 69 shirts cost = ₹ 255×69
 = ₹ 17595
6. One box contains = 48 chalk-sticks
 1926 boxes contain = 1926×48 chalk-sticks
 = 92448 chalk-sticks
7. One sack contains = 3264 marbles

- 28 sacks contain = 3264×28 marbles
= 91392 marbles
8. One pair of sun-glasses costs = ₹ 258
36 pairs of sun-glasses cost = ₹ 258×36
= ₹ 9288
9. One wagon contains = 1578 quintals of coal
39 wagon contain = 1578×39 quintals of coal
= 61,542 quintals of coal
10. One packet contains = 144 hankies
275 packets contain = 144×275 hankies
= 39,600 hankies
11. In one hour plane travels = 2486 km
In 18 hours plane travels = 2486×18 km
= 44,748 km
12. Rows of mango trees = 235 rows
Trees in each row = 144 trees
∴ Total no. of mango trees = 235×144
= 33,840 mango trees
13. Mary ordered = 35 gross pencils
∴ one gross = 144
∴ 35 gross pencils = 35×144
= 5040 pencils
14. In one day factory producers = 2475 tyres
In 6 days factory producers = 2475×6 tyres
= 14850 tyres
15. Alice ordered = 45 score sweets
∴ one score = 20
∴ 45 score sweets = 45×20 sweets
= 900 sweets
16. In one day cross the bridge = 476 vehicles
∴ month of May has = 31 days

$$\begin{aligned}
 \text{so, In 31 days cross the bridge} &= 476 \times 31 \\
 &= 14,756 \text{ vehicles} \\
 \mathbf{17. One chair costs} &= ₹ 275 \\
 \therefore 275 \text{ chairs cost} &= ₹ 275 \times 275 \\
 &= ₹ 75625 \text{ Ans.}
 \end{aligned}$$

6. DIVISION OF NUMBERS

EXERCISE 6.1

- | | | | |
|-----------|----------|---------|---------|
| (a) 1 | (b) 2375 | (c) 0 | (d) 1 |
| (e) 54745 | (f) 0 | (g) 50 | (h) 250 |
| (i) 45 | (j) 180 | (k) 17 | (l) 90 |
| (m) 84 | (n) 30 | (o) 300 | (p) 9 |
| (q) 40 | (r) 5 | | |

EXERCISE 6.2

- (a) $Q = 431$ $R = 2$ (b) $Q = 35$ $R = 87$ (c) $Q = 9$ $R = 783$
 (d) $Q = 4782$ $R = 5$ (e) $Q = 69$ $R = 30$ (f) $Q = 234$ $R = 90$
 (g) $Q = 78$ $R = 530$ (h) $Q = 56$ $R = 800$ (i) $Q = 296$ $R = 8$
 (j) $Q = 136$ $R = 95$ (k) $Q = 47$ $R = 968$ (l) $Q = 15$ $R = 930$
 (m) $Q = 1571$ $R = 6$ (n) $Q = 926$ $R = 74$

EXERCISE 6.3

(a)

$$\begin{array}{r}
 \overline{) 7 \ 3 \ 9 \ 2} \\
 \underline{6} \\
 1 \ 3 \\
 \underline{1 \ 2} \\
 1 \ 9 \\
 \underline{1 \ 8} \\
 1 \ 2 \\
 \underline{1 \ 2} \\
 0
 \end{array}$$

$Q = 1232$ }
 $R = 0$ } Ans. $\underline{\underline{0}}$

(b)

$$\begin{array}{r}
 \overline{) 5 \ 6 \ 9 \ 8} \\
 \underline{4} \\
 1 \ 6 \\
 \underline{1 \ 6} \\
 0 \ 9 \\
 \underline{8} \\
 1 \ 8 \\
 \underline{1 \ 6} \\
 2
 \end{array}$$

$Q = 1424$ }
 $R = 2$ } Ans. $\underline{\underline{2}}$

(c) to (h) → Do it yourself.

(i)

$$\begin{array}{r}
 1\ 2\ 5\ 0\ 1 \\
 6 \overline{) 7\ 5\ 0\ 0\ 9} \\
 \underline{6} \quad \downarrow \\
 1\ 5 \quad \downarrow \\
 \underline{1\ 2} \quad \downarrow \\
 3\ 0 \quad \downarrow \\
 \underline{3\ 0} \quad \downarrow \\
 0\ 0 \quad \downarrow \\
 \underline{0} \quad \downarrow \\
 9 \\
 \underline{6} \\
 \underline{3}
 \end{array}$$

$Q = 12501$ }
 $R = 3$ } Ans. $\underline{\underline{3}}$

(j)

$$\begin{array}{r}
 1\ 2\ 4\ 2\ 7 \\
 6 \overline{) 9\ 9\ 4\ 2\ 0} \\
 \underline{8} \quad \downarrow \\
 1\ 9 \quad \downarrow \\
 \underline{1\ 6} \quad \downarrow \\
 3\ 4 \quad \downarrow \\
 \underline{3\ 2} \quad \downarrow \\
 2\ 2 \quad \downarrow \\
 \underline{1\ 6} \quad \downarrow \\
 6\ 0 \quad \downarrow \\
 \underline{5\ 6} \\
 \underline{4}
 \end{array}$$

$Q = 12427$ }
 $R = 4$ } Ans. $\underline{\underline{4}}$

(k) to (t) → Do it yourself.

EXERCISE 6.4

(a)

$$\begin{array}{r}
 3\ 1\ 6 \\
 23 \overline{) 7\ 2\ 8\ 0} \\
 \underline{6\ 9} \quad \downarrow \\
 3\ 8 \quad \downarrow \\
 \underline{2\ 3} \quad \downarrow \\
 1\ 5\ 0 \quad \downarrow \\
 \underline{1\ 3\ 8} \\
 \underline{1\ 2}
 \end{array}$$

$Q = 316$ }
 $R = 12$ } Ans. $\underline{\underline{12}}$

(b)

$$\begin{array}{r}
 1\ 1\ 0 \\
 48 \overline{) 5\ 3\ 0\ 4} \\
 \underline{4\ 8} \quad \downarrow \\
 5\ 0 \quad \downarrow \\
 \underline{-\ 4\ 8} \quad \downarrow \\
 2\ 4 \quad \downarrow \\
 \underline{-\ 0} \\
 \underline{2\ 4}
 \end{array}$$

$Q = 110$ }
 $R = 24$ } Ans. $\underline{\underline{24}}$

(c)

$$\begin{array}{r}
 1\ 2\ 8 \\
 77 \overline{) 9\ 8\ 9\ 8} \\
 \underline{7\ 7} \quad \downarrow \\
 2\ 1\ 9 \quad \downarrow \\
 \underline{1\ 5\ 4} \quad \downarrow \\
 6\ 5\ 8 \quad \downarrow \\
 \underline{6\ 1\ 6} \\
 \underline{4\ 2}
 \end{array}$$

$Q = 128$ }
 $R = 42$ } Ans. $\underline{\underline{42}}$

(d) to (l) → Do it yourself.

(m)

$$\begin{array}{r}
 2058 \\
 48 \overline{) 98789} \\
 \underline{96} \\
 27 \\
 0 \\
 \underline{278} \\
 240 \\
 \underline{389}
 \end{array}$$

$$\left. \begin{array}{l} Q = 2058 \\ R = 5 \end{array} \right\} \text{Ans. } \underline{\quad 5}$$

(n)

$$\begin{array}{r}
 1124 \\
 38 \overline{) 42714} \\
 \underline{38} \\
 47 \\
 38 \\
 \underline{91} \\
 76 \\
 \underline{154}
 \end{array}$$

$$\left. \begin{array}{l} Q = 1124 \\ R = 2 \end{array} \right\} \text{Ans. } \underline{\quad 2}$$

(o) to (t) → Do it yourself.

EXERCISE 6.5

(a)

$$\begin{array}{r}
 8 \\
 115 \overline{) 998} \\
 \underline{920} \\
 78
 \end{array}$$

$$\left. \begin{array}{l} Q = 8 \\ R = 78 \end{array} \right\} \text{Ans.}$$

(b)

$$\begin{array}{r}
 2 \\
 425 \overline{) 896} \\
 \underline{850} \\
 46
 \end{array}$$

$$\left. \begin{array}{l} Q = 2 \\ R = 46 \end{array} \right\} \text{Ans.}$$

(c) Do it yourself.

(d)

$$\begin{array}{r}
 12 \\
 128 \overline{) 1557} \\
 \underline{128} \\
 277 \\
 \underline{256} \\
 21
 \end{array}$$

$$\left. \begin{array}{l} Q = 12 \\ R = 21 \end{array} \right\} \text{Ans.}$$

(e) and (f) → Do it yourself.

(g)

$$\begin{array}{r}
 104 \\
 184 \overline{) 19256} \\
 \underline{184} \\
 85 \\
 0
 \end{array}$$

$$\left. \begin{array}{l} Q = 104 \\ R = 120 \end{array} \right\} \text{Ans. } \underline{\quad 0}$$

(h) to (l) → Do it yourself.

EXERCISE 6.6

- 7 tricycles cost = ₹ 8792
1 tricycle costs = ₹ $(8792 \div 7)$
= ₹ 1256
- 9 crates have = 7308 flowers
1 crate has = $(7308 \div 9)$ flowers
= 812 flowers
- Total length of rope = 6336 metres
No. of pieces of length
67 metres can be cut from it = $6336 \div 67$
= 94 pieces and 38 m left
- 98 kg of wheat are filled in = 1 sack
1 kg of wheat are filled in = $\frac{1}{98}$ sack
9996 kg of wheat are filled in = $\frac{1}{98} \times 9996 = 102$ sacks
- Per month fee of one student = ₹ 65
Total fees collected in
one month = ₹ 9035
 \therefore No. of students in school = $9035 \div 65$
= 139 students
- 64 oranges are packed in = 1 carton
1 orange is packed in = $\frac{1}{64}$ carton
51904 oranges are packed in = $\frac{1}{64} \times 51904$ carton
= 811 cartons
- 9675 chocolates are packed in 25 cartons equally.
So, no. of chocolates in each carton
= $9675 \div 25$
= 387 chocolates

8. The price of one ticket = ₹ 25
 Total collection by tickets = ₹ 9800
 \therefore no. of tickets sold = $9800 \div 25$
 = 392 tickets
9. Product of two numbers = 53064
 one no. = 264
 So, other no. = $53064 \div 264$
 = 201
10. \therefore 1 hour = 60 minutes
 or 60 minutes = 1 hour
 1 minute = $\frac{1}{60}$ hour
 4320 minutes = $\frac{1}{60} \times 4320$ hours
 = $\frac{4320}{60}$ hours
 = 72 hours.

7. MULTIPLES AND FACTORS

EXERCISE 7.1

1. (a) $9 \times 1 = 9,$ $9 \times 2 = 18,$ $9 \times 3 = 27,$
 $9 \times 4 = 36,$ $9 \times 5 = 45$
- (b) $12 \times 1 = 12,$ $12 \times 2 = 24,$ $12 \times 3 = 36,$
 $12 \times 4 = 48,$ $12 \times 5 = 60$
- (c) $14 \times 1 = 14,$ $14 \times 2 = 28,$ $14 \times 3 = 42,$
 $14 \times 4 = 56,$ $14 \times 5 = 70$

(d) $15 \times 1 = 15,$ $15 \times 2 = 30,$ $15 \times 3 = 45,$

$15 \times 4 = 60,$ $15 \times 5 = 75$

(e) $18 \times 1 = 18,$ $18 \times 2 = 36,$ $18 \times 3 = 54,$

$18 \times 4 = 72,$ $18 \times 5 = 90$

2. (a) 35, 42, 49 **(b)** 50, 60, 70 **(c)** 80, 96, 112

3. (a) 5, 8 **(b)** 9, 4 **(c)** 2, 4, 6

4. (a) $15 \div 5 = 3$

15 is exactly divisible by 5

so it is multiple of 5. Ans.

(b) $21 \div 4 \Rightarrow Q = 4, R = 5$

21 is not exactly divisible by 4

so it is not multiple of 4. Ans.

(c) same as (a).

(d) same as (a).

5. Even no. = multiple of 2

Do it yourself.

6. Odd no. = Not multiple of 2

Do it yourself.

7. 52, 54, 56, 58, 60, 62, 64, 66, 68, 70, 72, 74, 76, 78, 80

8. 81, 83, 85, 87, 89, 91, 93, 95, 97, 99

9. 200, 400, 600, 800, 1000

10. (a) 0 **(b)** 2 **(c)** 4 **(d)** 5 **(e)** 1

(f) 1 **(g)** multiple **(h)** even **(i)** even **(j)** greater

11. (a) 10, 12, 14, 16, 18, 20, 22, 24, 26, 28
 (b) 11, 13, 15, 17, 19, 21, 23, 25, 27, 29
 (c) 98 (d) 99 (e) 101 (f) 100

EXERCISE 7.2

1. (a) factors (b) factors (c) 6, 8; 48 (d) 4, 7; 28
2. (a) $6 = 2 \times 3$ factors = 2, 3
 (b) $8 = 2 \times 4$ factors = 2, 4
 (c) $9 = 3 \times 3 = 9 \times 1$ factors = 3, 9
 (d) $10 = 2 \times 5$ factors = 2, 5
 (e) $12 = 3 \times 4$ factors = 3, 4
 (f) $14 = 2 \times 7$ factors = 2, 7 Ans.
3. and 4. Do it yourself.
5. (a) $9 = 3 \times 3 = 9 \times 1$
 all the factors = 1, 3, 9 Ans.
 (b) $12 = 3 \times 4 = 12 \times 1 = 6 \times 2$
 all the factors = 1, 2, 3, 4, 6, 12 Ans.
 (c) $15 = 3 \times 5 = 15 \times 1$
 all the factors = 1, 3, 5, 15 Ans.
 (d) $21 = 3 \times 7 = 21 \times 1$
 all the factors = 1, 3, 7, 21 Ans.
 (e) $28 = 2 \times 14 = 4 \times 7 = 28 \times 1$
 all the factors = 1, 2, 4, 7, 14, 28 Ans.
 (f) $30 = 2 \times 15 = 3 \times 10 = 5 \times 6 = 10 \times 3 = 30 \times 1$
 all the factors = 1, 2, 3, 5, 6, 10, 15, 30

6. Do it yourself.

7. (a)

$$\begin{array}{r} 8 \\ 5 \overline{) 40} \\ \underline{40} \\ 0 \end{array} \text{ (exactly divisible)}$$

So, 5 is a factor of 40 Ans.

$$\begin{array}{r} \text{(b)} \quad 8 \\ 9 \overline{) 72} \\ \underline{72} \\ 0 \end{array} \quad \text{(exactly divisible)}$$

So, 9 is a factor of 72 Ans.

$$\begin{array}{r} \text{(c)} \quad 9 \\ 10 \overline{) 96} \\ \underline{90} \\ 6 \end{array} \quad \text{Q} = 9, \text{R} = 6$$

(Not exactly divisible)

So, 10 is not a factor of 96 Ans.

$$\begin{array}{r} \text{(d)} \quad 8 \\ 13 \overline{) 104} \\ \underline{104} \\ 0 \end{array} \quad \text{(Exactly divisible)}$$

So, 13 is a factor of 104 Ans.

8. (a) $17 = 1 \times 17 \rightarrow$ Greatest factor

↓
smallest factor

(b) to (e) \rightarrow Do it yourself.

9. (a) $1 = 1 \times 1 \rightarrow$ only one factor (1).

(b) $2 = 1 \times 2 \rightarrow$ Two factors (1, 2)

(c) $5 = 1 \times 5 \rightarrow$ Two factors (1, 5)

(d) $6 = 2 \times 3 = 1 \times 6 \rightarrow$ Four factors (1, 2, 3, 6)

(e) $9 = 3 \times 3 = 9 \times 1 \rightarrow$ Three factors (1, 3, 9)

EXERCISE 7.3

1. Do it yourself.

2. 15, 25, 35, 45, 55

3. even

4. (a) 0 (b) 2 (c) 5, 0 (d) 3

5. (a) 2, 3 (b) 3 (c) 5 (d) 3, 5

(e) 2, 5, 10 (f) 2

EXERCISE 7.4

1. (a) $9 = 1 \times 9 = 3 \times 3$
all the factors = 1, 3, 9
- (b) $18 = 1 \times 18 = 2 \times 9 = 3 \times 6$
all the factors = 1, 2, 3, 6, 9, 18
- (c) $20 = 1 \times 20 = 2 \times 10 = 4 \times 5$
all the factors = 1, 2, 4, 5, 10, 20
- (d) $28 = 1 \times 28 = 2 \times 14 = 4 \times 7$
all the factors = 1, 2, 4, 7, 14, 28
- (e) $70 = 1 \times 70 = 2 \times 35 = 5 \times 14 = 7 \times 10$
all the factors = 1, 2, 5, 7, 10, 14, 35, 70
2. (a) $12 = 12 \times 1 = 2 \times 6 = 3 \times 4$
all the factors = six (1, 2, 3, 4, 6, 12)
- (b) $23 = 23 \times 1$
all the factors = two (1, 23)
- (c) $26 = 26 \times 1 = 2 \times 13$
all the factors = four (1, 2, 13, 26)
- (d) $31 = 1 \times 31$
all the factors = two (1, 31)
- (e) $38 = 1 \times 38 = 2 \times 19$
all the factors = four (1, 2, 19, 38)
3. (a) factors of 19 = 1, 19 (only two factors)
so, 19 is a prime no. Ans.
- (b) factors of 28 = 1, 2, 4, 7, 14, 28 (more than two factors)
so, 28 is a composite no.
- (c) same as (a) (d) same as (b) (e) same as (b)
4. 4, 6, 8, 9, 10, 12, 14, 15, 16, 18
5. 23, 29, 31, 37

EXERCISE 7.5

$$\begin{array}{r|rr}
 2 & 2 & 4 \\
 \hline
 2 & 1 & 2 \\
 \hline
 3 & & 6 \\
 \hline
 3 & & 3 \\
 \hline
 & & 1
 \end{array}$$

So, prime factors

$$= 2 \times 2 \times 2 \times 3 \quad \text{Ans.}$$

$$\begin{array}{r|rr}
 2 & 4 & 2 \\
 \hline
 3 & 2 & 1 \\
 \hline
 7 & & 7 \\
 \hline
 & & 1
 \end{array}$$

So, prime factors

$$= 2 \times 3 \times 7 \quad \text{Ans.}$$

$$\begin{array}{r|rr}
 2 & 5 & 6 \\
 \hline
 2 & 2 & 8 \\
 \hline
 2 & 1 & 4 \\
 \hline
 7 & & 7 \\
 \hline
 & & 1
 \end{array}$$

So, prime factors

$$= 2 \times 2 \times 2 \times 7 \quad \text{Ans.}$$

$$\begin{array}{r|rr}
 2 & 6 & 8 \\
 \hline
 2 & 3 & 4 \\
 \hline
 17 & 1 & 7 \\
 \hline
 & & 1
 \end{array}$$

So, prime factors

$$= 2 \times 2 \times 17 \quad \text{Ans.}$$

(e) to (o) → Do it yourself.

2. (a) All the factors of 24 = 1, 2, 3, 4, 6, 8, 12, 24

All the factors of 28 = 1, 2, 4, 7, 14, 28

Common factors = 1, 2, 4,

HCF = 4 Ans.

(b) All the factors of 25 = 1, 5, 25

All the factors of 35 = 1, 5, 7, 35

Common factors = 1, 5

HCF = 5 Ans.

(c) Do it yourself.

(d) All the factors of 16 = 1, 2, 4, 8, 16

All the factors of 24 = 1, 2, 3, 4, 6, 8, 12, 24

All the factors of 40 = 1, 2, 4, 5, 8, 10, 20, 40

Common factors = 1, 2, 4, 8

HCF = 8 Ans.

(e) Do it yourself.

3. (a)
$$\begin{array}{r|l} 7 & 14, 35 \\ & 2, 5 \end{array}$$
 HCF = 7 Ans.

(b)
$$\begin{array}{r|l} 15 & 30, 45 \\ & 2, 3 \end{array}$$
 HCF = 15 Ans.

(c)
$$\begin{array}{r|l} 8 & 40, 48 \\ & 5, 6 \end{array}$$
 HCF = 8 Ans.

(d) and (e) → Do it yourself.

(f)
$$\begin{array}{r|l} 2 & 12, 16, 20 \\ & 6, 8, 10 \\ & 3, 4, 5 \end{array}$$
 HCF = $2 \times 2 = 4$ Ans.

(g)
$$\begin{array}{r|l} 5 & 25, 35, 45 \\ & 5, 7, 9 \end{array}$$
 HCF = 5 Ans.

(h) to (j) → Do it yourself.

EXERCISE 7.6

1. (a) Multiples of 4 = 4, 8, 12, 16, 20, 24 ...
 Multiples of 6 = 6, 12, 18, 24, 30 ...
 Common multiples = 12, 24 ...
 LCM = 12 Ans.
- (b) Multiples of 6 = 6, 12, 18, 24, 30, 36, 42 ...
 Multiples of 8 = 8, 16, 24, 32, 40, 48 ...
 Common multiples = 24, 48 ...
 LCM = 24 Ans.
- (c) Multiples of 8 = 8, 16, 24, 32, 40, 48, 56, 64, 72, 80 ...
 Multiples of 10 = 10, 20, 30, 40, 50, 60, 70, 80 ...
 Common multiples = 40, 80 ...
 LCM = 40 Ans.
- (d) Multiples of 9 = 9, 18, 27, 36, 45, 54, 63, 72 ...
 Multiples of 12 = 12, 24, 36, 48, 60, 72 ...
 Common multiples = 36, 72 ...
 LCM = 36 Ans.
- (e) Multiples of 9 = 9, 18, 27, 36, 45, 54, 63, 72 ...

Multiples of 15 = 15, 30, 45, 60, 75, 90, 105, 120 ...

Common multiples = 45, 90 ...

LCM = 45 Ans.

(f) to (i) → Do it yourself.

$$\begin{array}{r|l} 2 & 8, 12 \\ \hline 2 & 4, 6 \\ \hline & 2, 3 \end{array}$$

LCM = $2 \times 2 \times 2 \times 3$
= 24 Ans.

$$\begin{array}{r|l} 3 & 9, 21 \\ \hline & 3, 7 \end{array}$$

LCM = $3 \times 3 \times 7$
= 63 Ans.

$$\begin{array}{r|l} 2 & 12, 20 \\ \hline 2 & 6, 10 \\ \hline & 3, 5 \end{array}$$

LCM = $2 \times 2 \times 3 \times 5$
= 60 Ans.

(d) and (e) → Do it yourself.

$$\begin{array}{r|l} 2 & 8, 10, 12 \\ \hline 2 & 4, 5, 6 \\ \hline & 2, 5, 3 \end{array}$$

LCM = $2 \times 2 \times 2 \times 3 \times 5$
= 120 Ans.

$$\begin{array}{r|l} 2 & 10, 15, 20 \\ \hline 5 & 5, 15, 10 \\ \hline & 1, 3, 2 \end{array}$$

LCM = $2 \times 2 \times 3 \times 5$
= 60 Ans.

(h) to (o) → Do it yourself.

8. FRACTIONAL NUMBERS

EXERCISE 8.1

1. (a) $\frac{2}{6}, \frac{4}{12}$ (b) $\frac{3}{4}, \frac{6}{8}$ (c) $\frac{1}{3}, \frac{2}{6}$ (d) $\frac{1}{2}, \frac{2}{4}$

2. (a) 2, 4, 3 (b) 2, 4, 6

3. (a) $\frac{4}{16}, \frac{5}{20}, \frac{6}{24}$ (b) $\frac{4}{28}, \frac{5}{35}, \frac{6}{24}$ (c) $\frac{4}{24}, \frac{5}{30}, \frac{6}{36}$

(d) $\frac{8}{12}, \frac{10}{15}, \frac{12}{18}$ (e) $\frac{12}{16}, \frac{15}{20}, \frac{18}{24}$ (f) $\frac{16}{20}, \frac{20}{25}, \frac{24}{30}$

4. (a) 3 (b) 6 (c) 12 (d) 10
 (e) 5 (f) 35 (g) 2 (h) 10

5. (a) $\frac{6}{7} = \frac{6 \times 3}{7 \times 3} = \frac{18}{21}$ Ans. (b) $\frac{6}{7} = \frac{6 \times 4}{7 \times 4} = \frac{24}{28}$ Ans.

(c) $\frac{6}{7} = \frac{6 \times 5}{7 \times 5} = \frac{30}{35}$ Ans. (d) $\frac{6}{7} = \frac{6 \times 6}{7 \times 6} = \frac{36}{42}$ Ans.

6. (a) $\frac{40}{48} = \frac{40 \div 8}{48 \div 8} = \frac{5}{6}$ Ans. (b) $\frac{40}{48} = \frac{40 \div 4}{48 \div 4} = \frac{10}{12}$ Ans.

(c) $\frac{40}{48} = \frac{40 \div 2}{48 \div 2} = \frac{20}{24}$ Ans. (d) $\frac{40}{48} = \frac{40 \div 8}{48 \div 8} = \frac{5}{6}$ Ans.

EXERCISE 8.2

1. (a) $\frac{2}{5} \times \frac{8}{20}$

$$\left. \begin{array}{l} 2 \times 20 = 40 \\ 8 \times 5 = 40 \end{array} \right\}$$

So, $\frac{2}{5}$ and $\frac{8}{20}$ are

equivalent

Yes

(b) $\frac{10}{15} \times \frac{2}{3}$

$$\left. \begin{array}{l} 10 \times 3 = 30 \\ 15 \times 2 = 30 \end{array} \right\}$$

So,

Yes

(c) $\frac{2}{3} \times \frac{3}{4}$

$$\left. \begin{array}{l} 2 \times 4 = 8 \\ 3 \times 3 = 9 \end{array} \right\}$$

So,

No

(b) $\frac{7}{8} \times \frac{9}{10}$

$$\left. \begin{array}{l} 7 \times 10 = 70 \\ 8 \times 9 = 72 \end{array} \right\}$$

So,

No

2. (a) Factors of 18 = 1, 2, 3, 6, 9, 18
 Factors of 24 = 1, 2, 3, 4, 6, 8, 12, 24
 Common factors = 1, 2, 3, 6 (more than 1)
 So, it is not in lowest term. Ans.

(b) same as (a)

- (c) Factors of 9 = 1, 3, 9
 Factors of 11 = 1, 11

Common factor = only 1

So, it is in lowest term. Ans.

(d) → same as (a)

(e) → same as (a)

(f) → same as (c)

3. (a) $\frac{8}{12} = \frac{8 \div 4}{12 \div 4} = \frac{2}{3}$ Ans. (b) $\frac{12}{20} = \frac{12 \div 4}{20 \div 4} = \frac{3}{5}$ Ans.

(c) $\frac{25}{30} = \frac{25 \div 5}{30 \div 5} = \frac{5}{6}$ Ans. (d) $\frac{18}{45} = \frac{18 \div 9}{45 \div 9} = \frac{2}{5}$ Ans.

(e) $\frac{40}{72} = \frac{40 \div 8}{72 \div 8} = \frac{5}{9}$ Ans. (f) $\frac{100}{120} = \frac{100 \div 20}{120 \div 20} = \frac{5}{6}$ Ans.

EXERCISE 8.3

1. (a) > (b) < (c) > (d) < (e) > (f) > (g) < (h) < (i) < (j) > (k) < (l) <

2. (a) <

(b) >

(c) <

(d) <

3. (a) $\frac{3}{13}, \frac{4}{13}, \frac{6}{13}, \frac{7}{13}$

(b) $\frac{5}{16}, \frac{7}{16}, \frac{9}{16}, \frac{13}{16}$

(c) $\frac{11}{21}, \frac{13}{21}, \frac{16}{21}, \frac{19}{21}$

(d) $\frac{5}{20}, \frac{9}{20}, \frac{13}{20}, \frac{17}{20}$

4. (a) $\frac{11}{12}, \frac{7}{12}, \frac{5}{12}, \frac{1}{12}$

(b) $\frac{17}{18}, \frac{13}{18}, \frac{7}{18}, \frac{5}{18}$

(c) $\frac{13}{15}, \frac{11}{15}, \frac{7}{15}, \frac{4}{15}$

(d) $\frac{16}{17}, \frac{14}{17}, \frac{8}{17}, \frac{4}{17}$

5. (a) $\frac{1}{25}, \frac{1}{21}, \frac{1}{18}, \frac{1}{15}$

(b) $\frac{8}{31}, \frac{8}{21}, \frac{8}{19}, \frac{8}{17}$

(c) $\frac{3}{19}, \frac{3}{17}, \frac{3}{11}, \frac{3}{7}$

(d) $\frac{9}{19}, \frac{9}{16}, \frac{9}{14}, \frac{9}{11}$

6. (a) $\frac{1}{9}, \frac{1}{10}, \frac{1}{13}, \frac{1}{16}$

(b) $\frac{4}{7}, \frac{4}{9}, \frac{4}{15}, \frac{4}{21}$

(c) $\frac{5}{6}, \frac{5}{9}, \frac{5}{12}, \frac{5}{16}$

(d) $\frac{12}{13}, \frac{12}{17}, \frac{12}{19}, \frac{12}{23}$

7. (a) $\frac{3}{4}, \frac{5}{6}, \frac{3}{10}, \frac{1}{2} \Rightarrow \text{LCM of } 4, 6, 10, 2 = 60$

$$\text{So, } \frac{3}{4} = \frac{3 \times 15}{4 \times 15} = \frac{45}{60}$$

$$\frac{5}{6} = \frac{5 \times 10}{6 \times 10} = \frac{50}{60}$$

$$\frac{3}{10} = \frac{3 \times 6}{10 \times 6} = \frac{18}{60}$$

$$\frac{1}{2} = \frac{1 \times 30}{2 \times 30} = \frac{30}{60}$$

$$\text{ascending order} = \frac{18}{60} < \frac{30}{60} < \frac{45}{60} < \frac{50}{60}$$

$$\text{corresponding fractions} = \frac{3}{10} < \frac{1}{2} < \frac{3}{4} < \frac{5}{6} \text{ Ans.}$$

2	4, 6, 10, 2
	2, 3, 5, 1
	LCM = 2 × 2 × 3 × 5 = 60

$$\text{(b) } \frac{1}{5}, \frac{7}{10}, \frac{4}{15}, \frac{9}{20} \Rightarrow \text{LCM of } 5, 10, 15, 20 = 120$$

$$\text{So, } \frac{1}{5} = \frac{1 \times 24}{5 \times 24} = \frac{24}{120}$$

$$\frac{7}{10} = \frac{7 \times 12}{10 \times 12} = \frac{84}{120}$$

$$\frac{4}{15} = \frac{4 \times 8}{15 \times 8} = \frac{32}{120}$$

$$\frac{9}{20} = \frac{9 \times 6}{20 \times 6} = \frac{54}{120}$$

$$\text{ascending order} = \frac{24}{120} < \frac{32}{120} < \frac{54}{120} < \frac{84}{120}$$

$$\text{corresponding fractions} = \frac{1}{5} < \frac{4}{15} < \frac{9}{20} < \frac{7}{10} \text{ Ans.}$$

5	5, 10, 15, 20
	1, 2, 3, 4
	LCM = 2 × 3 × 4 × 5 = 120

(c) to (d) → Do it yourself.

$$\text{8. (a) } \frac{7}{10}, \frac{1}{6}, \frac{3}{4}, \frac{1}{4} \Rightarrow \text{LCM of } 10, 6, 4, 4 = 60$$

$$\text{So, } \frac{7}{10} = \frac{7 \times 6}{10 \times 6} = \frac{42}{60}$$

$$\frac{1}{6} = \frac{1 \times 10}{6 \times 10} = \frac{10}{60}$$

$$\frac{3}{4} = \frac{3 \times 15}{4 \times 15} = \frac{45}{60}$$

$$\frac{1}{4} = \frac{1 \times 15}{4 \times 15} = \frac{15}{60}$$

2		10, 6, 4, 4
		5, 3, 2, 2
LCM = 2 × 2 × 3 × 5 = 60		

$$\text{descending order} = \frac{45}{60} > \frac{42}{60} > \frac{15}{60} > \frac{10}{60}$$

$$\text{corresponding fractions} = \frac{3}{4} > \frac{7}{10} > \frac{1}{4} > \frac{1}{6} \text{ Ans.}$$

(b) to (d) → Do it yourself.

9. Alice walked = $\frac{3}{4}$ km

Sarah walked = $\frac{3}{5}$ km

$$\therefore \frac{3}{4} > \frac{3}{5}$$

So, Alice walked more. Ans.

10. Green frog leaped = $\frac{18}{25}$ m

Black frog leaped = $\frac{3}{4}$ m

LCM of 25, 4 = 100

$$\text{So, } \frac{18}{25} = \frac{18 \times 4}{25 \times 4} = \frac{72}{100} \text{ and } \frac{3}{4} = \frac{3 \times 25}{4 \times 25} = \frac{75}{100}$$

$$\therefore \frac{72}{100} < \frac{75}{100} \text{ or } \frac{18}{25} < \frac{3}{4}$$

Hence we can say

Black frog leaped more. Ans.

EXERCISE 8.4

1. (a) $\frac{14}{31}$ (b) $\frac{3}{7}$ (c) $\frac{13}{15}$ (d) $\frac{3}{10}$ (e) $\frac{50}{10}$
2. (a) $3 \div 5$ (b) $14 \div 4$ (c) $20 \div 5$ (d) $19 \div 6$ (e) $3 \div 10$
3. (a) $\frac{16}{5} = 16 \div 5 \rightarrow Q = 3, R = 1$ So, $\frac{16}{5} = 3 + \frac{1}{5} = 3\frac{1}{5}$ Ans.
- (b) $\frac{18}{7} = 18 \div 7 \rightarrow Q = 2, R = 4$ So, $\frac{18}{7} = 2 + \frac{4}{7} = 2\frac{4}{7}$ Ans.
- (c) $\frac{41}{8} = 41 \div 8 \rightarrow Q = 5, R = 1$ So, $\frac{41}{8} = 5 + \frac{1}{8} = 5\frac{1}{8}$ Ans.
- (d) $\frac{59}{8} = 59 \div 8 \rightarrow Q = 7, R = 3$ So, $\frac{59}{8} = 7 + \frac{3}{8} = 7\frac{3}{8}$ Ans.
- (e) $\frac{47}{9} = 47 \div 9 \rightarrow Q = 5, R = 2$ So, $\frac{47}{9} = 5 + \frac{2}{9} = 5\frac{2}{9}$ Ans.
4. (a) $3\frac{2}{7} = \frac{3 \times 7 + 2}{7} = \frac{21 + 2}{7} = \frac{23}{7}$ Ans.
- (b) $5\frac{1}{2} = \frac{5 \times 2 + 1}{2} = \frac{10 + 1}{2} = \frac{11}{2}$ Ans.
- (c) $2\frac{1}{4} = \frac{2 \times 4 + 1}{4} = \frac{8 + 1}{4} = \frac{9}{4}$ Ans.
- (d) $4\frac{2}{3} = \frac{4 \times 3 + 2}{3} = \frac{12 + 2}{3} = \frac{14}{3}$ Ans.
- (e) $6\frac{5}{8} = \frac{6 \times 8 + 5}{8} = \frac{48 + 5}{8} = \frac{53}{8}$ Ans.
5. (a) $1\frac{5}{12} = \frac{1 \times 12 + 5}{12} = \frac{17}{12}$ So, $\frac{17}{12} \boxed{>} \frac{14}{12}$ Ans.
- (b) $4\frac{3}{8} = \frac{4 \times 8 + 3}{8} = \frac{32 + 3}{8} = \frac{35}{8}$

Now fractions are $\frac{11}{2}$ and $\frac{35}{8}$

LCM of 2 and 8 = 8

$$\text{So, } \frac{11}{2} = \frac{11 \times 4}{2 \times 4} = \frac{44}{8} \text{ and } \frac{35}{8} = \frac{35 \times 1}{8 \times 1} = \frac{35}{8}$$

$$\therefore \frac{44}{8} > \frac{35}{8} \text{ OR } \frac{11}{2} \boxed{>} 4\frac{3}{8} \text{ Ans.}$$

$$\text{(c) } 5\frac{1}{2} = \frac{5 \times 2 + 1}{2} = \frac{10 + 1}{2} = \frac{11}{2}$$

$$\text{Now, } \frac{5}{2} \boxed{<} \frac{11}{2} \text{ OR } \frac{5}{2} \boxed{<} 5\frac{1}{2} \text{ Ans.}$$

$$\text{(d) } 3\frac{3}{4} = \frac{3 \times 4 + 3}{4} = \frac{12 + 3}{4} = \frac{15}{4}$$

$$\text{So, } \frac{19}{4} \boxed{>} \frac{15}{4} \text{ OR } \frac{19}{4} \boxed{>} 3\frac{3}{4} \text{ Ans.}$$

$$\text{(e) } 3\frac{1}{2} = \frac{3 \times 2 + 1}{2} = \frac{6 + 1}{2} = \frac{7}{2}$$

$$\text{Now, } \frac{7}{3} \boxed{<} \frac{7}{2} \text{ OR } \frac{7}{3} \boxed{<} 3\frac{1}{2} \text{ Ans.}$$

EXERCISE 8.5

$$1. \text{ (a) } \frac{7}{12} + \frac{5}{12} + \frac{11}{12} = \frac{7 + 5 + 11}{12} = \frac{23}{12} = 1\frac{11}{12} \text{ Ans.}$$

$$\text{(b) } \frac{3}{16} + \frac{5}{16} + \frac{9}{16} = \frac{3 + 5 + 9}{16} = \frac{17}{16} = 1\frac{1}{16} \text{ Ans.}$$

$$\text{(c) } 2\frac{1}{3} + 1\frac{1}{3} + 4\frac{2}{3} = \frac{7}{3} + \frac{4}{3} + \frac{14}{3} = \frac{7 + 4 + 14}{3} \\ = \frac{25}{3} = 8\frac{1}{3} \text{ Ans.}$$

$$(d) \quad 1\frac{4}{7} + 2\frac{3}{7} + \frac{10}{7} = \frac{11}{7} + \frac{17}{7} + \frac{10}{7} = \frac{11 + 17 + 10}{7}$$

$$= \frac{38}{7} = 5\frac{3}{7} \text{ Ans.}$$

2. (a) $\frac{5}{6} + \frac{7}{8}$ (LCM of 6, 8 = 48)

$$\text{So, } \frac{5}{6} = \frac{5 \times 8}{6 \times 8} = \frac{40}{48} \quad \text{And } \frac{7}{8} = \frac{7 \times 6}{8 \times 6} = \frac{42}{48}$$

$$\text{So, } \frac{5}{6} + \frac{7}{8} = \frac{40}{48} + \frac{42}{48} = \frac{82}{48} = \frac{41}{24} = 1\frac{17}{24} \text{ Ans.}$$

(b) to (d) → Do it yourself.

(e) $\frac{8}{15} + \frac{7}{10} + \frac{11}{18}$

(LCM of 15, 10, 18 = 90)

$$\text{So, } \frac{8}{15} = \frac{8 \times 6}{15 \times 6} = \frac{48}{90}$$

$$\frac{7}{10} = \frac{7 \times 9}{10 \times 9} = \frac{63}{90}$$

$$\frac{11}{18} = \frac{11 \times 5}{18 \times 5} = \frac{55}{90}$$

$$\frac{11}{18} = \frac{11 \times 5}{18 \times 5} = \frac{55}{90}$$

$$\text{So, } \frac{8}{15} + \frac{7}{10} + \frac{11}{18} = \frac{48}{90} + \frac{63}{90} + \frac{55}{90} = \frac{166}{90} = 1\frac{76}{90} \text{ Ans.}$$

(f) to (l) → Do it yourself.

3. Total leap by frog = $\left(\frac{3}{4} + \frac{3}{5} + \frac{7}{10}\right) m = \left(\frac{15}{20} + \frac{12}{20} + \frac{14}{20}\right) m$

$$= \left(\frac{15 + 12 + 14}{20}\right) m = \frac{41}{20} m = 2\frac{1}{20} m$$

4. Sugar for coffee = $3\frac{1}{2}$ cups = $\frac{7}{2}$ cups

Sugar for ice-cream = $2\frac{1}{4}$ cups = $\frac{9}{4}$ cups

3	15, 10, 18
2	5, 10, 6
	5, 5, 3
LCM = 2 × 3 × 3 × 5 = 90	

$$\text{Sugar for cake} = 3\frac{1}{4} \text{ cups} = \frac{7}{2} \text{ cups}$$

$$\begin{aligned} \text{Total cups of sugar} &= \left(\frac{3}{2} + \frac{9}{4} + \frac{7}{2} \right) \text{ cups} \\ &= \left(\frac{6}{4} + \frac{9}{4} + \frac{14}{4} \right) \text{ cups} \\ &= \left(\frac{6 + 9 + 14}{4} \right) \text{ cups} \\ &= \frac{29}{4} \text{ cups} = 7\frac{1}{4} \text{ cups.} \end{aligned}$$

$$5. \text{ Pink ribbon} = 1\frac{4}{5} \text{ metre}$$

$$\text{Green ribbon} = 2\frac{1}{4} \text{ metre}$$

$$\text{Yellow ribbon} = 2\frac{1}{2} \text{ metre}$$

$$\text{Blue ribbon} = 1\frac{3}{5} \text{ metre}$$

Total length of all ribbons

$$\begin{aligned} &= \left(1\frac{4}{5} + 2\frac{1}{4} + 2\frac{1}{2} + 1\frac{3}{5} \right) \text{ m} \\ &= \left(\frac{9}{5} + \frac{9}{4} + \frac{5}{2} + \frac{8}{5} \right) \text{ m} \\ &= \left(\frac{36}{20} + \frac{45}{20} + \frac{50}{20} + \frac{32}{20} \right) \text{ m} \\ &= \left(\frac{36 + 45 + 50 + 32}{20} \right) \text{ m} \\ &= \frac{163}{20} \text{ m} = 8\frac{3}{20} \text{ m Ans.} \end{aligned}$$

$$6. \text{ Peas} = \frac{3}{10} \text{ kg.}$$

$$\text{Potatoes} = 1\frac{2}{5} \text{ kg.}$$

$$\text{Tomatoes} = \frac{1}{2} \text{ kg.}$$

Total quantity of vegetables

$$= \left(\frac{3}{10} + 1\frac{2}{5} + \frac{1}{2} \right) \text{ kg.}$$

$$= \left(\frac{3}{10} + \frac{7}{5} + \frac{1}{2} \right) \text{ kg.}$$

$$= \left(\frac{15}{50} + \frac{70}{50} + \frac{25}{50} \right) \text{ kg.}$$

$$= \left(\frac{15 + 70 + 25}{50} \right) \text{ kg.}$$

$$= \frac{110}{50} \text{ kg.} = \frac{11}{5} \text{ kg.} = 2\frac{1}{5} \text{ kg.}$$

$$7. \text{ Travelled by train} = 3\frac{5}{6} \text{ hours}$$

$$\text{Travelled by bus} = 2\frac{1}{4} \text{ hours}$$

$$\text{Total travelling time} = \left(3\frac{5}{6} + 2\frac{1}{4} + \frac{2}{5} \right) \text{ hours.}$$

$$= \left(\frac{23}{6} + \frac{9}{4} + \frac{2}{5} \right) \text{ hours.}$$

$$= \left(\frac{230}{60} + \frac{135}{60} + \frac{24}{60} \right) \text{ hours.}$$

$$= \left(\frac{230 + 135 + 24}{60} \right) \text{ hours.}$$

$$= \frac{389}{60} = 6\frac{29}{60} \text{ hours.}$$

9. DECIMAL FRACTIONS

EXERCISE 9.1

1. (a) $\frac{5}{10}$, .5 (b) $\frac{7}{10}$, .7 (c) $\frac{3}{10}$, .3 (d) $\frac{4}{10}$, .4
2. (a) 1.3 (b) 1.5 (c) 1.7 (d) 1.6
4. (a) $\frac{17}{100}$, .17 (b) $\frac{25}{100}$, .25 (c) $\frac{36}{100}$, .36 (d) $\frac{35}{100}$, .35
5. (a) .3 (b) .7 (c) 1.8 (d) 2.3
(e) 1.2 (f) 9.7 (g) .03 (h) .09
(i) .21 (j) .39 (k) 2.13 (l) 4.45
(m) .002 (n) .013 (o) .075 (p) .227
(q) .575 (r) 2.373
6. (a) two point four five (b) three point zero seven
(c) twenty-one point three five
(d) two hundred sixteen point three six
(e) seven point three five seven
(f) eight point four zero eight
7. (a) 2.12 (b) .576

EXERCISE 9.2

1. (a) tens, 30 (b) tenths .5
(c) thousandths, .006 (d) hundredths, .07
2. (a) 30, 5, .4, .05 (b) 10, 3, .2, .06, .008
(c) 20, 8, .3, .02, .004 (d) 100, 0, 5, 0, 0, .005
(e) 700, 50, 1, .3, .02, .004
3. (a) $8 + .3 + .06$ (b) $20 + .4 + .09$
(c) $30 + 2 + 4 + .08 + .002$ (d) $20 + .07$
(e) $10 + 8 + .005$

4. (a) $\frac{3}{10} + \frac{7}{100} + \frac{6}{1000} = 0.3 + 0.07 + 0.006 = 0.376$ Ans.
 (b) $6 + \frac{8}{10} + \frac{4}{100} + \frac{5}{1000} = 6 + 0.8 + 0.04 + 0.005 = 6.845$ Ans.
 (c) $40 + 2 + 0.3 + 0.04 + 0.009 = 42.349$ Ans.
5. (a) Yes. (b) Yes. (c) No. (d) Yes.

EXERCISE 9.3

1. (a) 0.3 1.784 (b) 0.87 0.9
 0.300 1.784 0.87 0.90
 0.300 1784 87 90
 or 0.3 1.784 Ans. or 0.87 0.9 Ans.
- (c) 5.5 5.055 (d) 0.6 0.25
 5.500 5.055 0.60 0.25
 5500 5055 60 25
 or 5.5 5.055 Ans. or 0.6 0.925 Ans.
- (e) to (h) → Do it yourself.
2. (a) 5.12, 5, 5.3, 5.21 5.12, 5.00, 5.30, 5.21
 512, 500, 530, 521 500 < 512 < 521 < 530
 Or 5 < 5.12 < 5.21 < 5.3 Ans.
- (b) 6.051, 6.12, 6.01, 6.1 6.051, 6.120, 6.010, 6.100
 6051, 6120, 6010, 6100 6010 < 6051 < 6100 < 6120
 6.01 < 6.051 < 6.1 < 6.12 Ans.
- (c) to (f) → Do it yourself.
3. (a) 2.8, 2.08, 2.81, 2.018 2.800, 2.080, 2.810, 2.018
 2800, 2080, 2810, 2018 2810 > 2800 > 2080 > 2018
 Or 2.81 > 2.8 > 2.08 > 2.018 Ans.

(b) 2.37, 3.12, 2.7, 3.01

2.37, 3.12, 2.70, 3.01

237, 312, 270, 301

312 > 301 > 270 > 237

Or 3.12 > 3.01 > 2.7 > 2.37

EXERCISE 9.4

1. (a) 9:957 (b) 182:175 (c) 65:296 (d) 422:008

2. (a)	$\begin{array}{r} 0.10 \\ 1.00 \\ + 11.50 \\ \hline 12.60 \end{array}$	(b)	$\begin{array}{r} 12.01 \\ 1.10 \\ + 1.76 \\ \hline 14.87 \end{array}$	(c)	$\begin{array}{r} 162.100 \\ 16.210 \\ + 1.621 \\ \hline 179.931 \end{array}$
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(d)	$\begin{array}{r} 10.00 \\ 0.10 \\ + 10.01 \\ \hline 20.11 \end{array}$	(e)	$\begin{array}{r} 16.75 \\ 17.50 \\ + 0.50 \\ \hline 34.75 \end{array}$	(f)	$\begin{array}{r} 13.070 \\ 71.300 \\ + 1.463 \\ \hline 85.833 \end{array}$
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(g)	$\begin{array}{r} 6.401 \\ 6.525 \\ + 9.067 \\ \hline 21.933 \end{array}$	(h)	$\begin{array}{r} 11.39 \\ 24.80 \\ + 1.39 \\ \hline 37.58 \end{array}$	(i)	$\begin{array}{r} 3.870 \\ 3.807 \\ + 38.700 \\ \hline 46.377 \end{array}$
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3. (a)	$\begin{array}{r} 38.234 \\ - 28.567 \\ \hline 9.667 \end{array}$	(b)	$\begin{array}{r} 306.000 \\ - 276.101 \\ \hline 29.899 \end{array}$	(c)	$\begin{array}{r} 54.60 \\ - 39.87 \\ \hline 14.73 \end{array}$
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(d)	$\begin{array}{r} 100.100 \\ - 45.545 \\ \hline 54.555 \end{array}$	(e)	$\begin{array}{r} 123.456 \\ - 56.698 \\ \hline 66.758 \end{array}$	(f)	$\begin{array}{r} 100.000 \\ - 23.121 \\ \hline 76.879 \end{array}$
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(g)	$\begin{array}{r} 10.710 \\ - 7.813 \\ \hline 2.897 \end{array}$	(h)	$\begin{array}{r} 8.00 \\ - 6.04 \\ \hline 1.96 \end{array}$	(i)	$\begin{array}{r} 11.23 \\ - 7.00 \\ \hline 4.23 \end{array}$
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4. (a)	$\begin{array}{r} 0.51 \\ - 0.34 \\ \hline 0.17 \end{array}$	(b)	$\begin{array}{r} 6.00 \\ - 3.21 \\ \hline 2.79 \end{array}$	(c)	$\begin{array}{r} 35.20 \\ - 17.28 \\ \hline 17.92 \end{array}$
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$$\begin{array}{r} \text{(d)} \quad 8.30 \\ - 2.14 \\ \hline 6.16 \end{array}$$

$$\begin{array}{r} \text{(e)} \quad 11.01 \\ - 10.11 \\ \hline 0.9 \end{array}$$

$$\begin{array}{r} \text{(f)} \quad 43.10 \\ - 32.05 \\ \hline 11.05 \end{array}$$

5. Measurement on a certain day = 4.6 cm.
 Next day, grew another height = 0.65 cm.
 Now, its height = 4.6 + 0.65
- $$\begin{array}{r} 4.60 \\ + 0.65 \\ \hline 5.25 \end{array}$$
6. Travelled by bus = 45.3 km
 Travelled by autorikshaw = 4.51 km
 Travelled by foot = 0.45 km
 Total travel = 50.26 km
- $$\begin{array}{r} 45.30 \\ 4.51 \\ + 0.45 \\ \hline 50.26 \end{array}$$
7. Winning player got = 25 points
 Second player got = 18.5 points
 More points got by winning player = 25 - 18.5
- $$\begin{array}{r} 25.0 \\ - 18.5 \\ \hline 6.5 \end{array}$$
8. Milkman had milk = 20.5 litres
 He sold = 15.750 litres
 Now he left with = 20.5 - 15.750
- $$\begin{array}{r} 20.500 \\ - 15.750 \\ \hline 4.750 \end{array}$$
- = 4.750 litres

10. MEASUREMENT IN METRIC SYSTEM

EXERCISE 10.1

1. and 2 → Do it yourself.
3. In a line there are = 7 ants
 Length of each ant = 8 mm
 Then length of line = 7 × 8 mm
 = 56 mm = $\frac{56}{10}$ cm = 5.6 cm

4. Thickness of 100 biscuits = 58 cm
 Thickness of 1 biscuit = $\frac{58}{100}$ cm
 = 0.58 cm = 0.58×10 mm
 = 5.8 mm Ans.
5. Length of rabbit's hop = 2 m
 In travelling 1 km (1000 m)
 rabbit takes no. of hops = $\frac{1000 \text{ m}}{2 \text{ m}}$
 = 500 hops Ans.
6. Height of max = 0.91 m
 Height of patricia = 0.79 m
 More height of max = $0.91 - 0.79 = 0.12$ m
 = $0.12 \times 100 = 12$ cm Ans.
7. Table's height = 0.97 m
 Stool's height = 0.68 m
 Total height of both = $0.97 + 0.68$
 = 1.65 m Ans.
8. Thickness of one book = 0.9 cm
 Thickness of 23 such books = 0.9×23
 = 20.7 cm

$$\begin{array}{r} 0.91 \\ - 0.79 \\ \hline 0.12 \end{array}$$

$$\begin{array}{r} 0.97 \\ + 0.68 \\ \hline 1.65 \end{array}$$

$$\begin{array}{r} 23 \\ \times 0.9 \\ \hline 20.7 \end{array}$$

EXERCISE 10.2

1. (a) $0.345 \text{ kg} = 0.345 \times 1000 \text{ g} = \boxed{345} \text{ g}$
 (b) $0.820 \text{ kg} = 0.820 \times 1000 \text{ g} = \boxed{820} \text{ g}$
 (c) $1.3 \text{ kg} = 1.3 \times 1000 \text{ g} = \boxed{1300} \text{ g}$
 (d) $5.05 \text{ kg} = 5.05 \times 1000 \text{ g} = \boxed{5050} \text{ g}$
 (e) $7.575 \text{ kg} = 7.575 \times 1000 \text{ g} = \boxed{7575} \text{ g}$
 (f) $11.75 \text{ kg} = 11.75 \times 1000 \text{ g} = \boxed{11750} \text{ g}$ Ans.

2. (a) $4375 \text{ g} = \frac{4375}{1000} \text{ kg} = \boxed{4.375} \text{ kg}$
- (b) $22395 \text{ g} = \frac{22395}{1000} \text{ kg} = \boxed{22.395} \text{ kg}$
- (c) $8008 \text{ g} = \frac{8008}{1000} \text{ kg} = \boxed{8.008} \text{ kg}$
- (d) $1976 \text{ g} = \frac{1976}{1000} \text{ kg} = \boxed{1.976} \text{ kg}$
- (e) $25700 \text{ g} = \frac{25700}{1000} \text{ kg} = \boxed{25.7} \text{ kg}$
- (f) $850 \text{ g} = \frac{850}{1000} \text{ kg} = \boxed{0.85} \text{ kg}$

3. Weight of vegetables = 1 . 3 7 5 kg
 Weight of fruits = + 2 . 1 8 5 kg
 Total weight = 3 . 5 6 0 kg

4. Grapes in carton = 5 kg 140 g = 5.140 kg
 Grapes left = 2 kg 745 g = 2.745 kg
 Grapes eaten by Mary's friends = 5.140 - 2.745 = 2.395 kg.

5. Weight of sugar = 1 kg 250 g = 1 . 2 5 0 kg
 Weight of rice = 2 kg 675 g = 2 . 6 7 5 kg
 Weight of flour = 3 kg 625 g = + 3 . 6 2 5 kg
 Total weight = 7 . 5 5 0 kg

6. George bought = 50 kg of potatoes
 He was left with = 34.750 kg of potatoes
 He sold = 5 0 . 0 0 0 kg
- 3 4 . 7 5 0 kg
1 5 . 2 5 0 kg

7. Weight of 7 packets of biscuits = 9.345 kg

$$\text{Weight of 1 packet of biscuits} = \frac{9.345}{7} \text{ kg}$$

$$= 1.335 \text{ kg}$$

$$\begin{array}{r} 1.335 \\ 7 \overline{) 9.345} \\ \underline{7} \\ 23 \\ \underline{21} \\ 24 \\ \underline{21} \\ 35 \\ \underline{35} \\ 0 \end{array}$$

8. Weight of 1 carton = 10.350 kg
 weight of 9 cartons = 10.350 × 9
 = 93.150 kg

$$\begin{array}{r} 10.350 \\ \times 9 \\ \hline 93.150 \end{array}$$

EXERCISE 10.3

1. and 2 → Do it yourself.

3. Chris had = 1.250 l of petrol

He got more petrol = 15.870 l

Now he have petrol = 1.250 + 15.870

= 17.120 litre

$$\begin{array}{r} 1.250 \\ + 15.870 \\ \hline 17.120 \end{array}$$

4. Total milk = 4.750 l + 5.350 l

= 10.100 l

$$\begin{array}{r} 4.750 \\ + 5.350 \\ \hline 10.100 \end{array}$$

5. Paint used for window = 2 l 750 ml

= 2.750 l

Paint used for doors = 6 l 280 ml

= 6.280 l

Total paint used

= 2.750 + 6.280 = 9.030 l

$$\begin{array}{r} 2.750 \\ + 6.280 \\ \hline 9.030 \end{array}$$

6. Water in bucket = $18\ 1550\ ml$
 = $18.550\ l$ $20\ .\ 000$
 Capacity of bucket = $20\ l$ $- 18\ .\ 550$
 Water can be filled over = $\underline{1\ .\ 450}$ litres
7. Kerosene was = $190.5\ l$
 Kerosene sold = $165.75\ l$ $190\ .\ 50$
 Kerosene left = $190.5 - 165.75\ l - 165\ .\ 75$
 = $24.75\ l$ $\underline{24\ .\ 75}$
8. Joseph was carrying = $4.250\ l$ of milk $4\ .\ 250$
 Milk left = $3.950\ l$ $- 3\ .\ 950$
 Spilled milk = $4.250 - 3.950$ $\underline{0\ .\ 300}$
 = $0.3\ l$
9. One tin pack contains = $2.550\ l$ of paint $2\ .\ 55$
 19 tin pack contains = 2.550×19 $\times 19$
 = 48.450 litre of paint $22\ 95$
 $25\ 50$
 $\underline{48\ .\ 45}$
10. 7 containers contain = $10.360\ l$ of glycerine
 1 container contains = $\frac{10.360}{7}$
 = $1.480\ l$ of glycerine

$$\begin{array}{r}
 1\ .\ 48 \\
 7 \overline{)10\ .\ 36} \\
 \underline{7\ } \\
 33 \\
 \underline{28\ } \\
 56 \\
 \underline{56\ } \\
 0
 \end{array}$$

II. TIME

EXERCISE II.1

1. to 3. → Do it yourself.

EXERCISE II.2

1. (a) 9 p.m. (b) 3 p.m. (c) 3 a.m. (d) 6 p.m.
 (e) 11 a.m. (f) 5:25 a.m. (g) 12:30 p.m. (h) 6:47 p.m.
2. (a) 4 hours (b) 7 hours (c) 7 hours (d) 7 hours
 (e) 6 hours (f) 9 hours
3. (a) a.m. (b) a.m. (c) a.m. (d) p.m. (e) p.m.
4. (a) p.m. (b) p.m. (c) a.m. (d) a.m.

EXERCISE II.3

1. (a) 6 : 45 p.m. = 1845 hours ($12 + 6 = 18$)
 (b) 5 : 50 a.m. = 0550 hours
 (c) 1 : 30 a.m. = 0130 hours
 (d) 11 : 38 p.m. = 2338 hours ($12 + 11 = 23$)
 (e) 12 noon = 1200 hours
 (f) 8 : 30 p.m. = 2030 hours ($12 + 8 = 20$)
 (g) 12 mid-night = 2400 hours
 (h) 10 : 40 a.m. = 1040 hours
2. (a) 11 : 20 before noon = 1120 hours
 (b) 3 : 40 after noon = 1540 hours ($12 + 3 = 15$)
 (c) 2 : 10 after midnight = 0210 hours
 (d) 6 : 10 evening = 1810 hours ($12 + 6 = 18$)
 (e) 7 O'clock morning = 0700 hours
 (f) 8 : 50 in night = 2050 hours ($12 + 8 = 20$)

- (g) midnight = 0000 hours or 2400 hours
- (h) 7 O'clock evening = 1900 hours ($12 + 7 = 19$)
- (i) 3 O'clock after midnight = 0300 hours
3. (a) 0045 hours = 12 : 45 a.m.
- (b) 1205 hours = 12 : 05 p.m.
- (c) 0950 hours = 9 : 50 a.m.
- (d) 1015 hours = 10 : 15 a.m.
- (e) 2300 hours = 11 : 00 p.m. ($23 - 12 = 11$)
- (f) 0520 hours = 5 : 20 a.m.
- (g) 1750 hours = 5 : 50 p.m. ($17 - 12 = 5$)
- (h) 0750 hours = 7 : 50 a.m.
- (i) 0115 hours = 1 : 15 a.m.
- (j) 0305 hours = 3 : 05 a.m.
- (k) 2307 hours = 11 : 07 p.m. ($23 - 12 = 11$)
- (l) 2235 hours = 10 : 35 p.m. ($22 - 12 = 10$)

EXERCISE II.4

1. (a) 2 hours = $2 \times 60 = \boxed{120}$ minutes
- (b) 3 hours = $3 \times 60 = \boxed{180}$ minutes
- (c) 3 days = $3 \times 24 = \boxed{72}$ hours
- (d) 6 hours = $6 \times 60 = \boxed{360}$ minutes
2. (a) 8 hours = $8 \times 60 = 480$ minutes
- (b) 6 hours 30 minutes = $6 \times 60 + 30 = 360 + 30$
= 390 minutes
- (c) 15 hours 15 minutes = $15 \times 60 + 15 = 900 + 15$
= 915 minutes

$$\begin{aligned} \text{(d) 1 day} &= 24 \text{ hours} = 24 \times 60 \text{ minutes} \\ &= 1440 \text{ minutes} \end{aligned}$$

$$3. \text{ (a) 4 days} = 4 \times 24 = 96 \text{ hours.}$$

$$\text{(b) 3 days 12 hours} = 3 \times 24 + 12 = 72 + 12 = 84 \text{ hours}$$

$$\text{(c) 10 days 23 hours} = 10 \times 24 + 23 = 240 + 23 = 263 \text{ hours}$$

$$\text{(d) 1 week} = 7 \text{ days} = 7 \times 24 \text{ hours} = 168 \text{ hours}$$

$$4. \text{ (a) 90 minutes} = 90 \div 60$$

$$= 1 \text{ hour } 30 \text{ minutes}$$

$$\begin{array}{r} 1 \\ 60 \overline{)90} \\ \underline{60} \\ 30 \end{array}$$

$$\text{(b) 160 minutes} = 160 \div 60$$

$$= 2 \text{ hours } 40 \text{ minutes}$$

$$\begin{array}{r} 2 \\ 60 \overline{)160} \\ \underline{120} \\ 40 \end{array}$$

$$\text{(c) 258 minutes} = 258 \div 60$$

$$= 4 \text{ hours } 18 \text{ minutes}$$

$$\begin{array}{r} 4 \\ 60 \overline{)258} \\ \underline{240} \\ 18 \end{array}$$

$$\text{(d) 472 minutes} = 472 \div 60$$

$$= 7 \text{ hours } 52 \text{ minutes}$$

$$\begin{array}{r} 7 \\ 60 \overline{)472} \\ \underline{420} \\ 52 \end{array}$$

$$5. \text{ (a) 50 hours} = 50 \div 24$$

$$= 2 \text{ days } 2 \text{ hours}$$

$$\begin{array}{r} 2 \\ 24 \overline{)50} \\ \underline{48} \\ 2 \end{array}$$

$$\text{(b) 90 hours} = 90 \div 24$$

$$= 3 \text{ days } 18 \text{ hours}$$

$$\begin{array}{r} 3 \\ 24 \overline{)90} \\ \underline{72} \\ 18 \end{array}$$

(c) 130 hours

$$= 130 \div 24$$

= 5 days 10 hours

$$24 \overline{) 130} \begin{array}{r} 5 \\ \underline{120} \\ 10 \end{array}$$

(d) 210 hours

$$= 210 \div 24$$

= 8 days 18 hours

$$24 \overline{) 210} \begin{array}{r} 8 \\ \underline{190} \\ 18 \end{array}$$

EXERCISE II.5

1. (a)

	h	min
	$\boxed{1}$	
	4	25
+	3	45
<hr/>		
	8	10

(b)

	h	min
	$\boxed{1}$	
	3	51
+	2	29
<hr/>		
	6	20

(c)

	h	min
	$\boxed{1}$	
	6	35
+	7	28
<hr/>		
	14	3

(d)

	h	min
	$\boxed{1}$	
	2	27
+	3	34
<hr/>		
	6	1

2. (a)

	h	min
	$\boxed{1}$	$\boxed{70}$
	2	10
-		45
<hr/>		
	1	25

(b)

	h	min
	$\boxed{3}$	$\boxed{110}$
	4	50
-	1	55
<hr/>		
	2	55

(c)

	h	min
	$\boxed{4}$	$\boxed{70}$
	5	10
-	2	40
<hr/>		
	2	30

(d)

	h	min
	$\boxed{12}$	$\boxed{90}$
	13	30
-	6	45
<hr/>		
	6	45

3. 4 : 45 a.m.

	h	min	
4 hours 45 min	4	45	
sum = 8 h 10 min	+ 3	25	
8 : 10 a.m.	<hr style="width: 100%; border: 0.5px solid black;"/>	8 10	Ans.

4. 9 : 30 p.m.

	h	min	
9 hours 30 min	9	30	
difference = 6 h 58 min	- 2	32	
6 : 58 p.m.	<hr style="width: 100%; border: 0.5px solid black;"/>	6 58	Ans.

5. 9 : 30 p.m.

	h	min	
9 hours 30 min	9	30	
sum = 12 h 10 min	+ 2	25	
12 : 10 a.m.	<hr style="width: 100%; border: 0.5px solid black;"/>	12 10	Ans.

6. Alice boarded at = 6 : 50 p.m.

	h	min	
Alice left at = 11 : 00 p.m.	11	00	
difference = 4 h 10 min	- 6	50	
	<hr style="width: 100%; border: 0.5px solid black;"/>	4 10	Ans.

7. 1120 hours = 11 : 20 a.m.

	h	min	
Sum = 14 h 10 min	14	10	
= 2 : 10 p.m.	+ 2	50	
or = 1410 hours	<hr style="width: 100%; border: 0.5px solid black;"/>	14 10	Ans.

8. Cynthia reached her school at = 7 : 45

	h	min	
She started from her house at = 7 : 15	7	45	
So, she took 30 minutes to reach school.	- 7	15	
	<hr style="width: 100%; border: 0.5px solid black;"/>	0 30	Ans.

9. 9 : 30 a.m. = 9 h 30 min

6 : 15 p.m. = 18 h 15 min

$$\begin{array}{r}
 \text{h} \quad \text{min} \\
 18 \quad 15 \\
 (12 + 6 = 18) \quad \begin{array}{l} \boxed{7} \quad \boxed{5} \\ 1 \quad 8 \quad 1 \quad 5 \\ - \quad 9 \quad 3 \quad 0 \\ \hline 8 \quad 4 \quad 5 \end{array} \\
 \hline
 \end{array}$$

So, office hours = 8 h 45 min Ans.

10. Rajdhani Express departs from New Delhi at
- = 17:15 hours
- = 5 : 15 p.m. (17 – 12 = 5)

Next day after 12 hours the time is

= 5 : 15 a.m.

Now from 5 : 15 a.m. to 10 : 55 a.m. time interval is

= 5 h 40 min

So, total time taken

$$\begin{array}{r}
 = 12 \text{ h} + 5 \text{ h} + 40 \text{ min} \quad \text{h} \quad \text{min} \\
 = 17 \text{ h} 40 \text{ min} \quad \begin{array}{l} 1 \quad 0 \quad 5 \quad 5 \\ - \quad 5 \quad 1 \quad 5 \\ \hline 5 \quad 4 \quad 0 \end{array} \quad \text{Ans.} \\
 \hline
 \end{array}$$

EXERCISE II.6

1. (a) Four : April, June, September, November
- (b) Seven : January, March, May, July, August, October, December
- (c) One : February
- (d) ∴ 1st wednesday falls on 2nd
- Then 2nd wednesday falls on = 2 + 7 = 9th Ans
- (e) ∴ second sunday falls on = 13th
- ∴ third sunday falls on = 13 + 7 = 20th
- ∴ fourth sunday falls on = 20 + 7 = 27th Ans.

$$(f) \left. \begin{array}{l} 2020 \\ 2028 \end{array} \right\} \text{(exactly divisible by 4)} \left[\frac{2020}{4} = 505 \text{ / } \frac{2028}{4} = 707 \right]$$

2. (a) 6th March to 31 March = $31 - 5 = 26$ days

1st April to 24 April = 24 days

So, 6th March to 24 April = $26 + 24 = 50$ days. Ans.

(b) 3rd August to 13th August = $13 - 2 = 11$ days

3. 7th may to 31 May = $31 - 6 = 25$ days

Month of June = 30 days

1 July to 7th July = 7 days

(∴ 8th July in returning date)

So, total outing days = $25 + 30 + 7 = 62$ days. Ans.

4. 8th October to 31 October = $31 - 7 = 24$ days

1 November to 8 November = 8 days

Total days = $24 + 8 = 32$ days. Ans.

5. 7th January to 31 January = $31 - 6 = 25$ days

Month of February = 28 days

1st March to 2nd March = 2 days

Total no. of days for leave = $25 + 28 + 2 = 55$ days. Ans.

6. 10th May to 31 May = $31 - 9 = 22$ days

1st June to 11th June = 11 days

Total days for stay = $22 + 11 = 33$ days. Ans.






7. 15th March is the first day of closing.

So, 28th March is the fourteenth day of closing.

Thus, 29th March is the opening day. Ans.







12. DATA HANDLING

1.

Fruits	Children
Apple	
Guava	
Banana	
Mango	
	1 picture  shows one children

Total no. of children = $7 + 3 + 6 + 4 = 20$ children

2.

Days	Number of Absentees 1 picture  shows one children
Monday	
Tuesday	
Wednesday	
Thursday	
Fiday	
Saturday	

3. Do yourself.

4. (a) Dogs are maximum.

no. of dogs

$$= 9 \times 5 = 45 \text{ Ans.}$$

- (b) Cats are maximum.
no. of cats = $3 \times 5 = 15$ Ans.
- (c) No. of stray cows = $7 \times 5 = 35$ Ans.
- (d) Total no. of stray animals = $7 \times 5 + 5 \times 5 + 9 \times 5 + 3 \times 5$
= $35 + 25 + 45 + 15$
= 120 animals. Ans.
5. (a) City A has maximum rainfall = $12 \times 10 = 120$ cm Ans.
(b) City D has maximum rainfall = $2 \times 10 = 20$ cm Ans.
(c) Rainfall in city B = $8 \times 10 = 80$ cm Ans.
(d) Rainfall in city E = $3 \times 10 = 30$ cm
Rainfall in city C = $4 \times 10 = 40$ cm.
Difference is = $40 - 30 = 10$ cm Ans.
6. Do yourself.
7. (a) Saturday
No. of tickets = 700 Ans.
(b) Tuesday and Wednesday
No. of tickets = 100 each. Ans.
(c) Tickets sold on Sunday = 600
Tickets sold on Saturday = 700
Difference is = $700 - 600 = 100$ Ans.
(d) Monday and Thursday.
200 tickets each
And Tuesday and Wednesday 100 tickets each. Ans.

13. LINES AND ANGLES

EXERCISE 13.1

Do it yourself.

EXERCISE 13.2

1. (a) ray (b) line (c) line-segment

2. (a) B, AB, BC (b) Y, XY, YZ (c) Q, PQ, QR
3. (a) $\angle PQR, \angle RQP$ (b) $\angle XYZ \angle ZYX$ (c) $\angle ABC, \angle CBA$
4. (a) acute angle (b) obtuse angle (c) right angle
5. (a) point (b) one (c) ray (d) vertex
 (e) middle (f) right (g) less (h) more, less
6. to 7. Do yourself.
8. (a) acute angle (b) acute angle (c) right angle
 (d) obtuse angle (e) acute angle (f) obtuse angle
 (g) straight angle (h) reflex angle (i) complete angle
 (j) reflex angle (k) acute angle (l) acute angle
 (m) obtuse angle (n) obtuse angle (o) reflex angle

14. POLYGONS AND CIRCLES

EXERCISE 14.1

1. (a) equilateral triangle (b) isosceles triangle
 (c) scalene triangle
2. (a) acute-angled triangle (b) obtuse angled triangle
 (c) right-angled triangle
3. (a) right (b) isosceles (c) scalene (d) four
 (e) chord (f) equal (g) twice (h) centre
4. (a) O (b) OA, OB, OC, OD
 (c) AB, CD (d) PQ, XY, AB, CD
5. (a) $r = 3$ cm $d = 3 \times 2 = 6$ cm Ans.
 (b) $r = 1.5$ cm $d = 1.5 \times 2 = 3$ cm Ans.
 (c) $r = 3.2$ cm $d = 3.2 \times 2 = 6.4$ cm Ans.
 (d) $r = 5$ cm $d = 5 \times 2 = 10$ cm Ans.
 (e) $r = 10$ cm $d = 10 \times 2 = 20$ cm Ans.

6. (a) $d = 4 \text{ cm}$ $r = \frac{4}{2} = 2 \text{ cm}$
- (b) $d = 10 \text{ cm}$ $r = \frac{10}{2} = 5 \text{ cm}$
- (c) $d = 4.8 \text{ cm}$ $r = \frac{4.8}{2} = 2.4 \text{ cm}$
- (d) $d = 12.6 \text{ cm}$ $r = \frac{12.6}{2} = 6.3 \text{ cm}$
- (e) $d = 7.2 \text{ cm}$ $r = \frac{7.2}{2} = 3.6 \text{ cm}$
7. Do it yourself.

15. PERIMETER

EXERCISE 15.1

1. (a) Perimeter = $5 + 2 + 5 + 2 = 14 \text{ cm}$ Ans.
- (b) Perimeter = $3 + 4 + 5 = 12 \text{ cm}$ Ans.
- (c) Perimeter = $2 + 4 + 6 + 3 = 15 \text{ cm}$ Ans.
- (d) Perimeter = $5 + 2 + 3 + 2 + 2 + 4 = 18 \text{ cm}$ Ans.
- (e) Perimeter = $3 + 2 + 1 + 3 + 2 + 2 = 13 \text{ cm}$ Ans.
- (f) Perimeter = $1 + 1 + 1 + 1 + 1 + 1 + 1 + 1 + 1 + 1 + 1 + 1 + 1 + 1$
= 12 cm Ans.
2. (a) Perimeter = $4 \times 5 = 20 \text{ cm}$ Ans.
- (b) Perimeter = $4 \times 7 = 28 \text{ cm}$ Ans.
- (c) Perimeter = $4 \times 10 = 40 \text{ m}$ Ans.
- (d) Perimeter = $4 \times 15.5 = 62.0 \text{ m}$ Ans.
- (e) Perimeter = $4 \times 16 = 64 \text{ m}$ Ans.
3. (a) Perimeter = $3 \times 10 = 30 \text{ cm}$ Ans.
- (b) Perimeter = $3 \times 15 = 45 \text{ cm}$ Ans.
- (c) Perimeter = $3 \times 4.3 = 12.9 \text{ m}$ Ans.
- (d) Perimeter = $3 \times 8.2 = 24.6 \text{ m}$ Ans.
- (e) Perimeter = $3 \times 16.4 = 49.2 \text{ m}$ Ans.

4. (a) $l = 5 \text{ cm}, b = 2 \text{ cm}$
 Perimeter (p) = $2(l + b) = 2(5 + 2) = 2 \times 7 = 14 \text{ cm Ans.}$
- (b) $l = 10 \text{ cm}, b = 6 \text{ cm}$
 $P = 2(l + b) = 2(10 + 6) = 2 \times 16 = 32 \text{ cm Ans.}$
- (c) $l = 4.2 \text{ m}, b = 7.3 \text{ m}$
 $P = 2(l + b) = 2(4.2 + 7.3) = 2 \times 11.5 = 23 \text{ m Ans.}$
- (d) $l = 5.7 \text{ m}, b = 2.3 \text{ m}$
 $P = 2(l + b) = 2(5.7 + 2.3) = 2 \times 8.0 = 16 \text{ m Ans.}$
5. Side of square = 210 m
 \therefore Perimeter = 4×210
 $= 840 \text{ m}$
 \therefore 1 metre costs = $\text{₹ } 16.50$
 $840 \text{ metre costs} = \text{₹ } 16.50 \times 840 = \text{₹ } 13860 \text{ Ans.}$
6. $l = 100 \text{ m}, b = 50 \text{ m}$
 Perimeter = $2(l + b) = 2(100 + 50) = 2 \times 150 = 300 \text{ m Ans.}$
 Distance covered by 1 times = 300 m
 Distance covered by 3 times = $300 \times 3 = 900 \text{ m Ans.}$
7. $l = 40 \text{ cm}, b = 25 \text{ cm}$
 $P = 2(l + b) = 2(40 + 25) = 2 \times 65 = 130 \text{ cm Ans.}$
8. $l = 5 \text{ m } 20 \text{ cm} = 5.20 \text{ m}$
 $b = 3 \text{ m } 20 \text{ cm} = 3.20 \text{ m}$
 Perimeter = $2(l + b) = 2(5.20 + 3.20) = 2 \times 8.40 = 16.80 \text{ m}$
 \therefore 1 metre costs = $\text{₹ } 2$
 \therefore $16.80 \text{ metre costs} = \text{₹ } 2 \times 16.80 = \text{₹ } 33.60 \text{ Ans.}$
9. Every side of a triangular park = 30 metres
 \therefore Perimeter = $3 \times 30 = 90 \text{ metres} = 9 \times 100 \text{ cm} = 9000 \text{ cm}$
 Girl walks 60 cm in each step.
 \therefore No. of steps to make one round = $\frac{9000}{60} = 150 \text{ steps. Ans.}$

10. Perimeter of triangular park = $175 + 150 + 225 = 550$ m

∴ 1 metre costs = ₹ 15

∴ 550 metre costs = ₹ $15 \times 550 = ₹ 8250$ Ans.

11. $l = 50$ m $b = 30$ m

∴ Perimeter = $2(l + b) = 2(50 + 30) = 2 \times 80 = 160$ m

∴ 160 m = 1 round

∴ 1 m = $\frac{1}{160}$ round

∴ 480 m = $\frac{480}{160}$ rounds = 3 rounds. Ans.

12. Side of square field = 110 metres

∴ Perimeter of square field = $4 \times 110 = 440$ m

Perimeter of rectangular field = $2(120 + 80)$

$= 2 \times 200 = 400$ m

In three rounds Alice runs = $3 \times 440 = 1320$ m

In three rounds Cynthia runs = $3 \times 400 = 1200$ m

So, Alice runs more. Ans.

And more distance = $1320 - 1200 = 120$ m Ans.

REVISION TEST PAPER-I

1. (a) 19808 (b) 7077

2. (a) 32,309 (b) 27,899 (c) 46,999

3. 54320; 20345 4. 55,545; 55,455; 45,555

5. (a) XXXIV (b) XXIX (c) LXXV (d) XCVII

6. (a) 24 (b) 43 (c) 84 (d) 99

7. (a) 9274; 10274; 11274; 12274; 13274

(b) 42007; 43007; 44007; 45007; 46007;

8. (a) 29,394 (b) 15,770 (c) 17,438

(d) 52,657 (e) 3000 (f) 40

9. Total no. of trees = 4 6 7 8 4
 in which Teak trees = - 2 8 8 9 5
 So other trees = 1 7 8 8 9 Trees Ans.

10.
$$\begin{array}{r} \boxed{1} \quad \boxed{1} \quad \boxed{1} \\ \quad \boxed{8} \quad \boxed{8} \quad \boxed{5} \\ \quad \quad 2 \quad 8 \quad 9 \quad 6 \\ \quad \quad \quad \times \quad 2 \quad 9 \\ \hline 2 \quad 6 \quad 0 \quad 6 \quad 4 \\ 5 \quad 7 \quad 9 \quad 2 \quad 0 \\ \hline 8 \quad 3 \quad 9 \quad 8 \quad 4 \end{array}$$
 Ans.

11.
$$\begin{array}{r} 1 \quad 1 \quad 2 \quad 4 \\ 38 \overline{) 4 \quad 2 \quad 7 \quad 1 \quad 4} \\ \underline{3 \quad 8} \quad \downarrow \\ 4 \quad 7 \quad \downarrow \\ \underline{3 \quad 8} \quad \downarrow \\ 9 \quad 1 \quad \downarrow \\ \underline{7 \quad 6} \quad \downarrow \\ 1 \quad 5 \quad 4 \\ \underline{1 \quad 5 \quad 2} \\ 2 \end{array}$$

Q = 1124 }
 R = 2 } Ans. $\underline{\quad 2}$

12. 1 packet contains
 275 packets contain
 = 144 hankies
 = 144×275
 = 39,600 hankies Ans.

13. to 19 → Do it yourself.

20.(a)
$$\begin{array}{r} 2 \mid 3 \quad 0 \\ 3 \mid 1 \quad 5 \\ 5 \mid 5 \\ \hline 1 \end{array}$$

Prime factors
 = $2 \times 3 \times 5$ Ans.

(b)
$$\begin{array}{r} 3 \mid 6 \quad 3 \\ 3 \mid 2 \quad 1 \\ 7 \mid 7 \\ \hline 1 \end{array}$$

Prime factors
 = $3 \times 3 \times 7$ Ans.

(c)
$$\begin{array}{r} 2 \mid 5 \quad 2 \\ 2 \mid 2 \quad 6 \\ 13 \mid 1 \quad 3 \\ \hline 1 \end{array}$$

Prime factors
 = $2 \times 2 \times 13$ Ans.

(d) to (j) → Do it yourself.

21.(a)
$$\begin{array}{r} 7 \mid 14, 35 \\ \hline 2, 5 \end{array}$$

HCF = 7 Ans.

(b)
$$\begin{array}{r} 8 \mid 40, 48 \\ \hline 5, 6 \end{array}$$

HCF = 8 Ans.

(c) to (e) → Do it yourself.

$$\begin{array}{r|l} 22.(\text{a}) & 2 \mid 8, 12 \\ & 2 \mid 4, 6 \\ & \hline & 2, 3 \end{array}$$

$$\begin{aligned} \text{LCM} &= 2 \times 2 \times 2 \times 3 \\ &= 24 \text{ Ans.} \end{aligned}$$

$$\begin{array}{r|l} (\text{b}) & 3 \mid 9, 21 \\ & 3 \mid 3, 7 \end{array}$$

$$\begin{aligned} \text{LCM} &= 3 \times 3 \times 7 \\ &= 63 \text{ Ans.} \end{aligned}$$

$$\begin{array}{r|l} (\text{c}) & 2 \mid 12, 20 \\ & 2 \mid 6, 10 \\ & \hline & 3, 5 \end{array}$$

$$\begin{aligned} \text{LCM} &= 2 \times 2 \times 5 \times 5 \\ &= 60 \text{ Ans.} \end{aligned}$$

(d) to (e) → Do it yourself.

23. to 25. → Do it yourself.

$$26. (\text{a}) \frac{8}{31}, \frac{8}{21}, \frac{8}{19}, \frac{8}{17}$$

$$(\text{b}) \frac{3}{19}, \frac{3}{17}, \frac{3}{11}, \frac{3}{7}$$

(c) → Do it yourself.

$$\begin{aligned} 27. 1\frac{5}{8} + 2\frac{2}{3} + 3\frac{3}{4} &= \frac{13}{8} + \frac{8}{3} + \frac{15}{4} \\ &= \frac{39}{24} + \frac{64}{24} + \frac{90}{24} = \frac{39 + 64 + 90}{24} = \frac{193}{24} = 8\frac{1}{24} \text{ Ans.} \end{aligned}$$

$$\begin{aligned} 28. 9\frac{7}{8} - 1\frac{5}{6} &= \frac{79}{8} - \frac{11}{6} = \frac{474}{48} - \frac{88}{48} \\ &= \frac{474 - 88}{48} = \frac{386}{48} = \frac{193}{24} = 8\frac{1}{24} \text{ Ans.} \end{aligned}$$

29. Weight of empty tin

$$\begin{aligned} &= 16\frac{1}{5} - 14\frac{3}{4} = \frac{81}{5} - \frac{59}{4} = \frac{324}{20} - \frac{295}{20} \\ &= \frac{324 - 295}{20} = \frac{29}{20} = 1\frac{9}{20} \text{ Ans.} \end{aligned}$$

REVISION TEST PAPER-II

1. to 6. → Do it yourself.

$$\begin{array}{r} 7. \quad 13.070 \\ \quad 71.300 \\ + 1.463 \\ \hline 85.833 \end{array}$$

$$\begin{array}{r} 8. \quad 6.00 \\ \quad - 3.21 \\ \hline 2.79 \end{array}$$

9. $11.75 \text{ kg} = 11.75 \times 1000 \text{ g} = \boxed{11750} \text{ g}$ Ans.

10. $4357 \text{ g} = \frac{4357}{1000} \boxed{4.357} \text{ g}$ Ans.

11. $3 \text{ l } 30 \text{ ml} = 300 \text{ ml} + 30 \text{ ml} = \boxed{3030} \text{ ml}$ Ans.

12. $5 \text{ l } 50 \text{ ml} = 5 \text{ l} + \frac{50}{1000} \text{ l} = 5 \text{ l} + 0.050 \text{ l} = \boxed{5.050} \text{ l}$ Ans.

13. Kerosene was = 190.5 l
 Kerosene sold = 165.75 l
 Kerosene left = $190.5 - 165.75 \text{ l}$

$$\begin{array}{r} 190.50 \\ - 165.75 \\ \hline 24.75 \end{array}$$

= 24.75 l

14. Table's height = 0.97 m
 Stool's height = 0.68 m
 Total height of both = $0.97 + 0.68$

$$\begin{array}{r} 0.97 \\ + 0.68 \\ \hline 1.65 \end{array}$$

= 1.65 m Ans.

15. Weight of 7 packets of biscuits = 9.345 kg
 Weight of 1 packet of biscuits = $\frac{9.345}{7} \text{ kg}$

$$\begin{array}{r} 1.335 \\ 7 \overline{) 9.345} \\ \underline{7} \\ 23 \\ \underline{21} \\ 24 \\ \underline{21} \\ 35 \\ \underline{35} \\ 0 \end{array}$$

= 1.335 kg

16. to 18. → Do it yourself.

19. 258 minutes = $258 \div 60$
= 4 hours 18 minutes

$$\begin{array}{r} 4 \\ 60 \overline{) 258} \\ \underline{240} \\ 18 \end{array}$$

20. 8 hours = 8×60
= 480 minutes Ans.

21. 9 : 30 p.m.

9 hours 30 min

sum

= 12 h 10 min

12 : 10 a.m.

h	min
1	
9	45
+ 2	25
<hr/>	
12	10

 Ans.

22. Alice boarded at = 6 : 50 p.m.

Alice left at = 11 : 00 p.m.

difference = 4 h 10 min

h	min
11	00
- 6	50
<hr/>	
4	10

 Ans.

23. 8th October to 31 October = $31 - 7 = 24$ days

1 November to 8 November = 8 days

Total days = $24 + 8 = 32$ days. Ans.

24. to 27. → Do it yourself.

