

Key to

Soaring Higher and Higher in



MATHEMATICS



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I. Extension of Numbers

Let Us Revise

1. a. 1 b. 10 c. 100 d. 1000
2. a. 9 b. 99 c. 999 d. 9999
3. a. Three thousand four hundred ten
 b. Five thousand six hundred fifty-seven
4. a. 6946 b. 8521
5. a. 6, 6 b. 60, 6 c. 600, 6 d. 6000, 6
6. a. $4000 + 600 + 90 + 7$ b. $8000 + 600 + 50 + 0$
7. a. 3555 b. 7802
8. a. = b. > c. <
9. 3456, 4563, 4635, 6435
10. 8999, 8909, 8090, 8009
11. a. Predecessor - 1575, Successor - 1577
 b. Predecessor - 5266, Successor - 5268
12. a. 3210, 1023 b. 7654, 4567
 c. 8721, 1278 d. 9830, 3089
13. 2246, 2248, 2250, 2252, 2254
14. 5501, 5503, 5505, 5507, 5509

Exercise I.1

1. a. 10,000 b. 1,00,000
2. a. 99,999 b. 9,99,999
3. L TTh Th H T O
 a. 8 1 6 9 5
 b. 9 4 3 6 2
 c. 1 3 6 8 9 4
 d. 7 3 5 3 6 8
 e. 9 0 4 5 1 2
4. Period Place
 a. Thousands Ten thousands
 b. Ones Tens
 c. Thousands Thousands
 d. Lakhs Lakhs
 e. Hundreds Hundreds

5. a. 30,607 b. 88,724 c. 2,66,090 d. 5,85,303
e. 9,47,321
6. a. 10,000 - Ten thousand
b. 53,251 - Fifty-three thousand two hundred fifty-one
c. 4,35,207 - Four lakh thirty-five thousand two hundred seven
d. 6,78,032 - Six lakh seventy-eight thousand thirty-two
e. 7,20,460 - Seven lakh twenty thousand four hundred sixty
f. 9,89,898 - Nine lakh eighty-nine thousand eight hundred ninety-eight
7. a. A healthy heart beats about one lakh fifteen thousand two hundred times per day.
b. The Sun is about three lakh thirty thousand three hundred thirty times larger than the Earth.
c. The Moon is about three lakh eighty-four thousand four hundred km away from the Earth.
d. There are five lakh twenty-five thousand six hundred minutes in an ordinary year.

Exercise 1.2

1. a. 5, 5 b. 50, 5 c. 500, 5 d. 5,000, 5
e. 50,000, 5 f. 7, 7 g. 70, 7 h. 700, 7
i. 7,000, 7 j. 70,000, 7 k. 7,00,000, 7
2. a. 60,600 b. 60,060 c. 6,00,006 d. 6,60,000
3. a. 2,700 b. 29,997 c. 2,970 d. 2,97,000
4. a. 70,415 b. 32,351 c. 46,101 d. 3,72,819
e. 8,73,530

Exercise 1.3

1. a. 4 ten thousands + 8 thousands + 3 hundreds + 1 tens + 5 ones
b. 2 lakhs + 6 ten thousands + 3 thousands + 8 hundreds + 0 tens + 4 ones
c. $5 \times 10,000 + 6 \times 1,000 + 0 \times 100 + 9 \times 10 + 8 \times 1$
d. $6 \times 1,00,000 + 1 \times 10,000 + 4 \times 1,000 + 3 \times 100 + 2 \times 10 + 9 \times 1$
e. $70,000 + 0 + 300 + 20 + 1$
f. $9,00,000 + 20,000 + 6,000 + 400 + 80 + 7$
2. a. 19,047 b. 3,45,062 c. 52,397 d. 6,20,732
e. 8,42,316 f. 70,465

3. a. 3 ten thousands + 4 thousands + 5 hundreds + 8 tens + 7 ones
 $(3 \times 10,000) + (4 \times 1,000) + (5 \times 100) + (8 \times 10) + (7 \times 1)$
 $30,000 + 4,000 + 500 + 80 + 7$
- b. 5 lakhs + 2 ten thousands + 0 thousands + 1 hundreds + 6 tens + 4 ones
 $(5 \times 1,00,000) + (2 \times 10,000) + (0 \times 1,000) + (1 \times 100) + (6 \times 10) + (4 \times 1)$
 $5,00,000 + 20,000 + 0 + 100 + 60 + 4$

Exercise 1.4

1. a. > b. > c. = d. <
 e. > f. > g. = h. <
2. a. 21,345 b. 60,656 c. 1,11,002 d. 5,61,593
3. a. 15,555 b. 76,605 c. 3,90,392 d. 8,90,482
4. a. $11,747 < 12,347$ San Francisco is farther from New Delhi.
 b. $3,42,239 > 3,08,252$ Madhya Pradesh has smaller area.

Exercise 1.5

1. a. 23,769 26,763 27,639 29,763
 b. 1,90,841 3,93,208 3,95,802 7,94,801
 c. 2,35,131 3,14,827 4,13,286 8,23,141
2. a. 68,609 68,608 48,608 46,806
 b. 24,606 23,947 20,444 17,405
 c. 6,66,660 6,66,606 6,66,066 6,60,660

Exercise 1.6

1. a. 10,504 b. 23,696 c. 6,59,999 d. 8,10,099
 e. 9,87,653
2. a. 12,346 b. 34,051 c. 5,55,700 d. 6,97,878
 e. 9,89,199
3. a. 13,998 $\leftarrow$ 13,999 $\rightarrow$ 14,000
 b. 65,039 $\leftarrow$ 65,040 $\rightarrow$ 65,041
 c. 99,008 $\leftarrow$ 99,009 $\rightarrow$ 99,010
 d. 3,85,509 $\leftarrow$ 3,85,510 $\rightarrow$ 3,85,511
 e. 5,00,100 $\leftarrow$ 5,00,101 $\rightarrow$ 5,00,102
 f. 7,09,999 $\leftarrow$ 7,10,000 $\rightarrow$ 7,10,001
 g. 8,88,198 $\leftarrow$ 8,88,199 $\rightarrow$ 8,88,200
 h. 9,11,298 $\leftarrow$ 9,11,299 $\rightarrow$ 9,11,300

Exercise 1.7

1. a. 76,532 23,567
 b. 84,210 10,248
 c. 97,321 12,379
2. a. 66,521 11,256
 b. 88,750 50,078
 c. 99,643 33,469
3. a. 7,63,210 1,02,367
 b. 6,43,210 1,02,346
 c. 9,86,521 1,25,689
4. a. 5,54,321 1,12,345
 b. 8,87,650 5,05,678
 c. 9,96,421 1,12,469

Revision Exercise

1. a. Twenty-four thousand six hundred eighty
 b. Nine lakh ninety-one thousand six hundred fifty-eight
2. a. 3,12,548 b. 5,87,239
3. a. 3, 3 b. 60,000, 6
4. Sum $\rightarrow 7,00,000 + 70 = 7,00,070$
 Difference $\rightarrow 7,00,000 - 70 = 6,99,930$
5. a. 5 lakhs + 6 ten thousands + 3 thousands + 0 hundreds +
 0 tens + 4 ones
 b. 8,00,000 + 50,000 + 6,000 + 400 + 90 + 2
6. a. = b. < c. >
7. 2,90,467 4,90,467 5,90,467
8. 8,15,043 6,15,043 3,15,043
9. a. 10,998 $\leftarrow 10,999 \rightarrow 11,000$
 b. 5,00,100 $\leftarrow 5,00,101 \rightarrow 5,00,102$
10. 8,65,310 1,03,568

Mental Maths

- a. ones period b. one lakh c. 7,07,077 d. 5
- e. 10,234 f. 9,87,654

Skills Practice

•

6	3	4	1	5	2
1	5	2	4	3	6
3	4	6	5	2	1
5	2	1	6	4	3
4	1	3	2	6	5
2	6	5	3	1	4

6 3 4 1 5 2

1 5 2 4 3 6

3 4 6 5 2 1

5 2 1 6 4 3

4 1 3 2 6 5

2 6 5 3 1 4

Life Skills and Values

- 1. House 3
2. House 2

2. Roman Numerals

Exercise 2.1

1. a. >

b. >

c. >

d. <

e. >

f. =
2. a. $10 + 5 = 15$

b. $10 + 10 + 4 = 24$

c. $10 + 10 + 10 + 2 = 32$

d. $10 + 5 + 1 + 1 + 1 = 18$

e. $10 + 10 + 9 = 29$

f. $10 + 10 + 10 + 5 + 1 = 36$
3. a. XIII

b. XXI

c. XXIV

d. XXVII

e. XXXV

f. XXXVIII
4. Before

Between

After

XIV

XV

XVI

XXI

XXII

XXIII

XXIX

XXX

XXXI

XXXV

XXXVI

XXXVII
5. a. XV

b. X

c. XXXIX

d. XIV

e. XX

f. XX

Skills Practice

- $XXXII - X = XXII$

3. Fractions

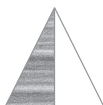
One-Half

1. a. Whole

b. Unequal

c. Half

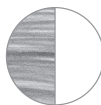
2. a.



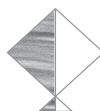
b.



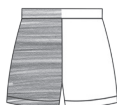
c.



d.

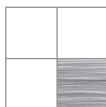


e.



One-Fourth

• a.



b.



c.



d.

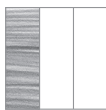


One-Third

• a.



b.



c.



d.



Exercise 3.1

• a. $\frac{1}{3}$

b. $\frac{1}{4}$

c. $\frac{1}{2}$

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

e. $\frac{1}{2}$

f. $\frac{1}{4}$

Think About It

There are 7 apples in the bowl.

Exercise 3.2

1. a. $\frac{1}{2}$

b. $\frac{4}{8}$

c. $\frac{2}{3}$

d. $\frac{6}{9}$

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

f. $\frac{7}{10}$

2. a. $\frac{4}{6}$

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

c. $\frac{2}{7}$

d. $\frac{5}{8}$

e. $\frac{4}{5}$

f. $\frac{6}{10}$

3. a.



b.



c.



d.



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

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

c. $\frac{1}{7}$

d. $\frac{1}{4}$

e. $\frac{3}{5}$

f. $\frac{1}{2}$

5. a. one-fourth

b. one-eighth

c. two-thirds

d. three-fourths

e. one-half

f. two-fifths

6. a. numerator

b. denominator

c. numerator

d. denominator

e. numerator

f. denominator

7. a. $\frac{5}{8}$

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

c. $\frac{4}{7}$

d. $\frac{6}{10}$

8. a. $\frac{3}{7}$ of the members went shopping.

b. Heena kept $\frac{2}{8}$ of the pizza for her sister.

c. $\frac{2}{5}$ of the Rosy's friends were boys.

d. Myra returned $\frac{6}{9}$ of the books.

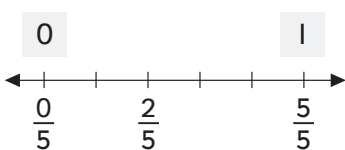
e. $\frac{4}{6}$ of the cats are not black.

Exercise 3.3

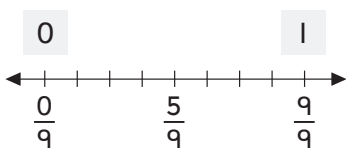
1. a. $\frac{3}{4}$

b. $\frac{5}{6}$

2. a.

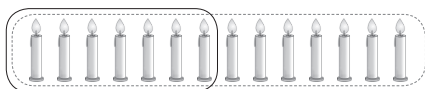


b.



Exercise 3.4

1. a.





2. a. 5 b. 6 c. 5 d. 9
 e. 6 f. 17 g. 10 h. 20
 i. 11
3. a. 9 roses are red. b. Kriti has read 9 pages.
 c. 20 oranges are remaining. d. 5 students got Grade A.

Mystery Box

Rohan's sister ate 2 bananas.

Brain Teaser

$$\frac{3}{7}$$

Exercise 3.5

1. a. like b. unlike c. like d. unlike
 e. like f. like
2. $\left(\frac{1}{3}\right)$ $\left(\frac{1}{6}\right)$ $\frac{3}{6}$ $\left(\frac{1}{7}\right)$ $\frac{7}{8}$ $\left(\frac{1}{9}\right)$ $\left(\frac{1}{16}\right)$

Exercise 3.6

1. a. $\frac{2}{6}$ b. $\frac{2}{8}$ c. $\frac{2}{10}$
 2. a. $\frac{1}{2}$ b. $\frac{3}{9}$ c. $\frac{1}{4}$

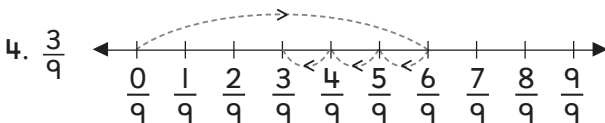
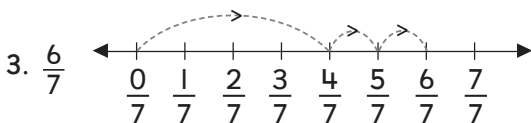
Exercise 3.7

1. $\left(\frac{2}{8}\right)$ $\frac{2}{10}$ $\left(\frac{3}{12}\right)$ $\frac{4}{12}$ $\left(\frac{4}{16}\right)$ $\frac{5}{15}$ $\left(\frac{5}{20}\right)$ $\frac{6}{18}$
2. a. $\frac{1 \times 2}{2 \times 2} = \frac{2}{4}$ $\frac{1 \times 3}{2 \times 3} = \frac{3}{6}$
 b. $\frac{2 \times 2}{8 \times 2} = \frac{4}{16}$ $\frac{2 \times 3}{8 \times 3} = \frac{6}{24}$
 c. $\frac{3 \times 2}{9 \times 2} = \frac{6}{18}$ $\frac{3 \times 3}{9 \times 3} = \frac{9}{27}$

- d. $\frac{4 \times 2}{6 \times 2} = \frac{8}{12}$ $\frac{4 \times 3}{6 \times 3} = \frac{12}{18}$
3. a. $\frac{6 \div 2}{12 \div 2} = \frac{3}{6}$ $\frac{6 \div 3}{12 \div 3} = \frac{2}{4}$
- b. $\frac{4 \div 2}{16 \div 2} = \frac{2}{8}$ $\frac{4 \div 4}{16 \div 4} = \frac{1}{4}$
4. a. $\frac{2}{8}$ b. $\frac{4}{8}$ c. $\frac{3}{9}$ d. $\frac{15}{24}$
- e. $\frac{4}{24}$ f. $\frac{4}{44}$ g. $\frac{10}{25}$ h. $\frac{21}{35}$
5. a. $\frac{2}{6} = \frac{3}{9} = \frac{4}{12} = \frac{5}{15}$ b. $\frac{4}{8} = \frac{6}{12} = \frac{8}{16} = \frac{10}{20}$
- c. $\frac{6}{8} = \frac{9}{12} = \frac{12}{16} = \frac{15}{20}$ d. $\frac{6}{10} = \frac{9}{15} = \frac{12}{20} = \frac{15}{25}$

Exercise 3.8

1. a. $\frac{3}{4}$ b. $\frac{4}{5}$ c. $\frac{5}{6}$
- d. $\frac{6}{7}$ e. $\frac{2}{3}$ f. $\frac{9}{9}$
2. a. $\frac{1}{4}$ b. $\frac{2}{5}$ c. $\frac{1}{7}$
- d. $\frac{6}{8}$ e. $\frac{4}{6}$ f. $\frac{1}{9}$

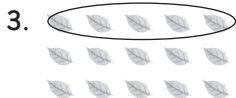


5. a. Anne solved $\frac{5}{6}$ of the puzzle in all.
- b. There are $\frac{5}{8}$ of the rose plants in the garden.
- c. Sameer ate $\frac{1}{7}$ more pieces of the cake.
- d. Nancy has $\frac{3}{9}$ blue hair clips.

Revision Exercise

1. a. $\frac{8}{10}$ b. $\frac{4}{8}$ c. $\frac{3}{6}$ d. $\frac{5}{9}$

2. a. numerator b. denominator c. numerator



4. a. UL

b. L

c. L

5. $\frac{1}{10}$

$\left(\frac{2}{10}\right)$

$\frac{2}{9}$

$\left(\frac{7}{35}\right)$

$\left(\frac{6}{30}\right)$

$\frac{4}{16}$

$\left(\frac{4}{20}\right)$

$\left(\frac{5}{25}\right)$

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

b. $\frac{5}{6}$

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

7. a. $\frac{1}{3}$

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

c. $\frac{2}{8}$

8. a. Surbhi and her friend ate $\frac{5}{8}$ of chocolate.

b. Krish painted $\frac{5}{12}$ of the flowers yellow.

Mental Maths

• a. one-fourth

b. 3

c. denominator

d. 6

e. $\frac{6}{8}$

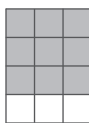
f. $\frac{4}{10}$

g. equivalent

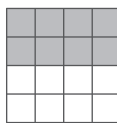
h. unlike

Skills Practice

• a. $\frac{9}{12}$



a. $\frac{8}{16}$



Life Skills and Values

• I. Mira travels $\frac{1}{8}$ of the distance on foot.

4. Addition and Subtraction

Let Us Revise

Pg-50

1. a. 769

b. 803

c. 897

d. 915

2. a. 579, 579 b. 927, 927

3. There are 771 animals in the farm.

Pg-51

1. a. 211

b. 311

c. 546

d. 404

2. a. 333, 579 b. 543, 857

3. ₹76 was left with Ryan.

Exercise 4.1

- | | | |
|---------|--------|--------|
| • a. 67 | b. 77 | c. 97 |
| d. 279 | e. 589 | f. 679 |

Exercise 4.2

- | | | |
|---------|--------|--------|
| • a. 69 | b. 65 | c. 67 |
| d. 202 | e. 293 | f. 687 |

Exercise 4.3

- | | | |
|---------|--------|--------|
| • a. 85 | b. 159 | c. 277 |
| d. 73 | e. 161 | f. 315 |

Exercise 4.4

- | | | |
|----------|-------|-------|
| 1. a. 33 | b. 72 | c. 51 |
| d. 22 | e. 21 | f. 41 |
| 2. a. 21 | b. 33 | c. 22 |

Exercise 4.5

- | | | |
|----------|--------|--------|
| • a. 175 | b. 263 | c. 228 |
| d. 299 | e. 227 | |

Exercise 4.6

- | | | |
|----------|--------|--------|
| • a. 503 | b. 699 | c. 861 |
| d. 888 | e. 899 | |

Exercise 4.7

- | | | |
|----------|--------|--------|
| • a. 191 | b. 189 | c. 283 |
| d. 571 | e. 498 | |

Exercise 4.8

- | | | |
|----------|--------|--------|
| • a. 395 | b. 688 | c. 587 |
| d. 748 | e. 845 | f. 930 |

Brain Teaser

- greatest sum = $569 + 408 + 17 = 994$
smallest sum = $105 + 246 + 37 = 378$

Exercise 4.9

- | | | | |
|-----------|---------|---------|---------|
| • a. 1233 | b. 1221 | c. 1209 | d. 1167 |
| e. 1395 | f. 1354 | g. 1657 | h. 1051 |
| i. 1244 | j. 1004 | k. 1416 | l. 1641 |

Exercise 4.10

- | | | | |
|-----------|---------|---------|---------|
| • a. 6877 | b. 5979 | c. 5684 | d. 8999 |
| e. 6955 | f. 9789 | g. 8875 | h. 7699 |
| i. 5599 | j. 8886 | k. 7549 | l. 6489 |

Exercise 4.11

- | | | | |
|-----------|---------|---------|---------|
| • a. 6381 | b. 4024 | c. 7302 | d. 8020 |
| e. 8422 | f. 9603 | g. 9230 | h. 6022 |
| i. 9036 | j. 8511 | k. 8120 | l. 9112 |

Exercise 4.12

- | | | | |
|-----------|---------|---------|---------|
| • a. 2434 | b. 2221 | c. 1221 | d. 4302 |
| e. 2421 | f. 5211 | g. 5320 | h. 3812 |

Exercise 4.13

- | | | | |
|------------------|---------------|---------|---------|
| 1. a. 2757, 5483 | b. 2923, 8654 | | |
| 2. a. 2658 | b. 2077 | c. 3446 | d. 1906 |
| e. 5188 | f. 5677 | g. 4746 | h. 5804 |

Exercise 4.14

- | | | | |
|------------|---------|---------|---------|
| 1. a. 2004 | b. 1613 | c. 4066 | d. 2752 |
| e. 2434 | f. 3469 | g. 2223 | h. 3489 |

Exercise 4.15

- a. There are 6044 art paintings in the gallery.
- b. Avni's brother saved ₹1680.
- c. 2630 bags stored in the godown.
- d. The factory made 9400 pens in all.
- e. 9517 saplings were planted during the campaign.
- f. There are 3775 books in the library at present.
- g. The airline carried 8769 passengers in both the months.
- h. There are 3155 males in the village.
- i. The dairy sold 94711 milk in both the weeks.
- j. Hari Singh got 1807 more votes.

Exercise 4.16

- | | | | |
|-----------|---------|---------|---------|
| • a. 5521 | b. 8734 | c. 1931 | d. 8712 |
|-----------|---------|---------|---------|

Mystery Box

- | | |
|---------------------------|-------------------------|
| • a. $2496 + 4583 = 7079$ | b. $6894 - 3549 = 3345$ |
| c. $5000 + 4581 = 9581$ | d. $7314 - 1234 = 6080$ |

Exercise 4.17

- a. There are 4730 photographs in Aditi's camera.
- b. 7310 bricks had been used during the day.
- c. There are 4815 books in the library now.
- d. There are 2005 walnut trees in the farm.

Exercise 4.18

- | | | |
|------------|---------|---------|
| 1. a. 3000 | b. 6000 | c. 9000 |
|------------|---------|---------|

2. a. Actual - 6088, Estimated - 6000
b. Actual - 8210, Estimated - 8000
3. a. Actual - 4012, Estimated - 4000
b. Actual - 1479, Estimated - 1000
4. Actual - 3090, Estimated - 3000

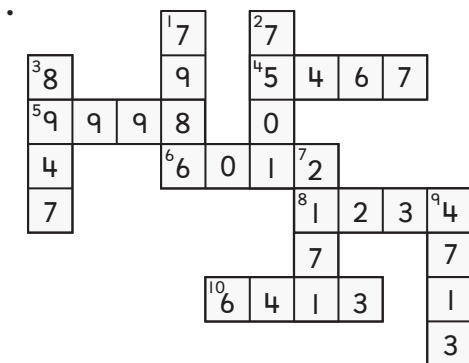
Revision Exercise

1. a. 395 b. 422 c. 677
d. 572 e. 315 f. 733
2. a. 603 b. 227 c. 495
3. a. 5689 b. 2531 c. 9065 d. 1104
4. 2757, 5483
5. 4115
6. Actual - 4012, Estimated - 4000
7. Actual - 8210, Estimated - 8000
8. There are 6305 frogs in the pond now.

Mental Maths

- a. 7346 b. 9000 c. 4568
d. 2901 e. 4900 f. 8269

Skills Practice



5. Multiplication

Exercise 5.1

1. a. 2 b. 24 c. 37 d. 8
e. 3 f. 8 g. 7 h. 6
2. a. $3 \times 5 = 5 \times 3 = 15$ b. $7 \times 6 = 6 \times 7 = 42$
c. $4 \times 8 = 8 \times 4 = 32$ d. $9 \times 7 = 7 \times 9 = 63$

3. a. $(2 \times 3) \times 4 = 2 \times (3 \times 4) = 24$
 b. $(4 \times 7) \times 8 = 4 \times (7 \times 8) = 224$
 c. $(6 \times 5) \times 9 = 6 \times (5 \times 9) = 270$
 d. $(8 \times 3) \times 7 = 8 \times (3 \times 7) = 168$

Multiplication Tables

2 Times Table

$1 \times 2 = 2$	$2 \times 1 = 2$
$2 \times 2 = 4$	$2 \times 2 = 4$
$3 \times 2 = 6$	$2 \times 3 = 6$
$4 \times 2 = 8$	$2 \times 4 = 8$
$5 \times 2 = 10$	$2 \times 5 = 10$
$6 \times 2 = 12$	$2 \times 6 = 12$
$7 \times 2 = 14$	$2 \times 7 = 14$
$8 \times 2 = 16$	$2 \times 8 = 16$
$9 \times 2 = 18$	$2 \times 9 = 18$
$10 \times 2 = 20$	$2 \times 10 = 20$
$11 \times 2 = 22$	$2 \times 11 = 22$
$12 \times 2 = 24$	$2 \times 12 = 24$

3 Times Table

$1 \times 3 = 3$	$3 \times 1 = 3$
$2 \times 3 = 6$	$3 \times 2 = 6$
$3 \times 3 = 9$	$3 \times 3 = 9$
$4 \times 3 = 12$	$3 \times 4 = 12$
$5 \times 3 = 15$	$3 \times 5 = 15$
$6 \times 3 = 18$	$3 \times 6 = 18$
$7 \times 3 = 21$	$3 \times 7 = 21$
$8 \times 3 = 24$	$3 \times 8 = 24$
$9 \times 3 = 27$	$3 \times 9 = 27$
$10 \times 3 = 30$	$3 \times 10 = 30$
$11 \times 3 = 33$	$3 + 3 = 6$
$12 \times 3 = 36$	$3 + 6 = 9$

4 Times Table

$1 \times 4 = 4$	$4 \times 1 = 4$
$2 \times 4 = 8$	$4 \times 2 = 8$
$3 \times 4 = 12$	$4 \times 3 = 12$
$4 \times 4 = 16$	$4 \times 4 = 16$
$5 \times 4 = 20$	$4 \times 5 = 20$
$6 \times 4 = 24$	$4 \times 6 = 24$
$7 \times 4 = 28$	$4 \times 7 = 28$
$8 \times 4 = 32$	$4 \times 8 = 32$
$9 \times 4 = 36$	$4 \times 9 = 36$
$10 \times 4 = 40$	$4 \times 10 = 40$
$11 \times 4 = 44$	$4 \times 11 = 44$
$12 \times 4 = 48$	$4 \times 12 = 48$

5 Times Table

$1 \times 5 = 5$

$2 \times 5 = 10$

$3 \times 5 = 15$

$4 \times 5 = 20$

$5 \times 5 = 25$

$6 \times 5 = 30$

$7 \times 5 = 35$

$8 \times 5 = 40$

$9 \times 5 = 45$

$10 \times 5 = 50$

$11 \times 5 = 55$

$12 \times 5 = 60$

$5 \times 1 = 5$

$5 \times 2 = 10$

$5 \times 3 = 15$

$5 \times 4 = 20$

$5 \times 5 = 25$

$5 \times 6 = 30$

$5 \times 7 = 35$

$5 \times 8 = 40$

$5 \times 9 = 45$

$5 \times 10 = 50$

$5 \times 11 = 55$

$5 \times 12 = 60$

6 Times Table

$1 \times 6 = 6$

$2 \times 6 = 12$

$3 \times 6 = 18$

$4 \times 6 = 24$

$5 \times 6 = 30$

$6 \times 6 = 36$

$7 \times 6 = 42$

$8 \times 6 = 48$

$9 \times 6 = 54$

$10 \times 6 = 60$

$11 \times 6 = 66$

$12 \times 6 = 72$

$6 \times 1 = 6$

$6 \times 2 = 12$

$6 \times 3 = 18$

$6 \times 4 = 24$

$6 \times 5 = 30$

$6 \times 6 = 36$

$6 \times 7 = 42$

$6 \times 8 = 48$

$6 \times 9 = 54$

$6 \times 10 = 60$

$6 + 6 = 12 \rightarrow 1 + 2 = 3$

$7 + 2 = 9$

7 Times Table

$1 \times 7 = 7$

$2 \times 7 = 14$

$3 \times 7 = 21$

$4 \times 7 = 28$

$5 \times 7 = 35$

$6 \times 7 = 42$

$7 \times 7 = 49$

$8 \times 7 = 56$

$9 \times 7 = 63$

$10 \times 7 = 70$

$11 \times 7 = 77$

$12 \times 7 = 84$

$13 \times 7 = 91$

$14 \times 7 = 98$

$7 \times 1 = 7$

$7 \times 2 = 14$

$7 \times 3 = 21$

$7 \times 4 = 28$

$7 \times 5 = 35$

$7 \times 6 = 42$

$7 \times 7 = 49$

$7 \times 8 = 56$

$7 \times 9 = 63$

$7 \times 10 = 70$

$7 \times 11 = 77$

$7 \times 12 = 84$

$7 \times 13 = 91$

$7 \times 14 = 98$

8 Times Table

$1 \times 8 = 8$

$2 \times 8 = 16$

$3 \times 8 = 24$

$4 \times 8 = 32$

$5 \times 8 = 40$

$6 \times 8 = 48$

$7 \times 8 = 56$

$8 \times 8 = 64$

$9 \times 8 = 72$

$10 \times 8 = 80$

$11 \times 8 = 88$

$12 \times 8 = 96$

$8 \times 1 = 8$

$8 \times 2 = 16$

$8 \times 3 = 24$

$8 \times 4 = 32$

$8 \times 5 = 40$

$8 \times 6 = 48$

$8 \times 7 = 56$

$8 \times 8 = 64$

$8 \times 9 = 72$

$8 \times 10 = 80$

$8 \times 11 = 88$

$8 \times 12 = 96$

9 Times Table

$1 \times 9 = 9$

$2 \times 9 = 18$

$3 \times 9 = 27$

$4 \times 9 = 36$

$5 \times 9 = 45$

$6 \times 9 = 54$

$7 \times 9 = 63$

$8 \times 9 = 72$

$9 \times 9 = 81$

$10 \times 9 = 90$

$11 \times 9 = 99$

$12 \times 9 = 108$

$9 \times 1 = 9$

$9 \times 2 = 18$

$9 \times 3 = 27$

$9 \times 4 = 36$

$9 \times 5 = 45$

$9 \times 6 = 54$

$9 \times 7 = 63$

$9 \times 8 = 72$

$9 \times 9 = 81$

$9 \times 10 = 90$

$9 + 9 = 18 \rightarrow 1 + 8 = 9$

$1 + 0 + 8 = 9$

10 Times Table

$1 \times 10 = 10$

$2 \times 10 = 20$

$3 \times 10 = 30$

$4 \times 10 = 40$

$5 \times 10 = 50$

$6 \times 10 = 60$

$7 \times 10 = 70$

$8 \times 10 = 80$

$9 \times 10 = 90$

$10 \times 10 = 100$

$11 \times 10 = 110$

$12 \times 10 = 120$

$10 \times 1 = 10$

$10 \times 2 = 20$

$10 \times 3 = 30$

$10 \times 4 = 40$

$10 \times 5 = 50$

$10 \times 6 = 60$

$10 \times 7 = 70$

$10 \times 8 = 80$

$10 \times 9 = 90$

$10 \times 10 = 100$

$10 \times 11 = 110$

$10 \times 12 = 120$

Exercise 5.2

1. a. 7 b. 24 c. 4 d. 7
e. 48 f. 7 g. 8 h. 54
i. 10
2. a. $2 \times 8 \rightarrow 16 \leftarrow 4 \times 4$ b. $2 \times 9 \rightarrow 18 \leftarrow 3 \times 6$
c. $4 \times 6 \rightarrow 24 \leftarrow 3 \times 8$ d. $5 \times 6 \rightarrow 30 \leftarrow 3 \times 10$
e. $6 \times 6 \rightarrow 36 \leftarrow 4 \times 9$ f. $4 \times 10 \rightarrow 40 \leftarrow 5 \times 8$
3. a. There are 270 flowers in 6 such garlands.
b. 310 apples will be packed in 5 such boxes.

Exercise 5.3

- a. 112 b. 185 c. 483 d. 657

Puzzle

- a. greatest product - $87 \times 9 = 783$
b. smallest product - $23 \times 1 = 23$

Exercise 5.4

- a. 2565 b. 3168 c. 3339 d. 3408
e. 3858 f. 3945 g. 6624 h. 8487

Exercise 5.5

- a. 22,743 b. 39,213 c. 32,814 d. 48,584

Exercise 5.6

- a. 6510 b. 1,84,500 c. 10,96,000

Exercise 5.7

- a. 962 b. 1904 c. 3648 d. 5382
e. 1200 f. 2208 g. 3198 h. 2162

Exercise 5.8

- a. 3312 b. 8820 c. 17,712 d. 44,156
e. 32,436 f. 50,853 g. 79,396 h. 81,228

Exercise 5.9

- | | | | |
|-------------|-------------|-------------|-------------|
| • a. 46,172 | b. 55,875 | c. 73,136 | d. 1,48,943 |
| e. 3,72,456 | f. 3,41,766 | g. 3,65,099 | h. 6,65,496 |

Exercise 5.10

- | | | | |
|-------------|-----------|-------------|-------------|
| 1. a. 884 | b. 2236 | c. 5626 | d. 37,995 |
| e. 22,596 | f. 19,313 | g. 6,05,644 | h. 6,66,080 |
| i. 4,80,740 | | | |
2. a. 840 students can travel in the buses.
b. The farmer planted 864 plants in all.
c. 6225 students took part in the competition.
d. Juli will burn 24,750 calories in 45 days.
e. 15,275 passengers can fly in the aeroplane.
f. 27,336 litres water is required to cool the thermal plant for 24 hours.
g. Mother will pay ₹90,000 to the nanny over a period of 12 months.

Exercise 5.11

- | | | | |
|---------------|-------------|-------------|-------------|
| • a. 1,58,208 | b. 1,47,742 | c. 2,20,077 | d. 2,43,082 |
| e. 3,60,360 | f. 4,66,662 | | |

Exercise 5.12

- | | | | |
|---------------|-------------|-------------|-------------|
| • a. 3,13,885 | b. 8,55,635 | c. 8,71,233 | d. 7,85,436 |
| e. 9,88,982 | f. 8,95,269 | | |

Exercise 5.13

- | | | | |
|--------------|-------------|--------------|--------------|
| 1. a. 42,704 | b. 98,532 | c. 2,07,328 | d. 3,78,767 |
| e. 2,51,220 | f. 3,30,960 | g. 12,70,944 | h. 16,12,671 |
| i. 18,98,802 | | | |
2. a. The bus will travel 64,240 km in a year.
b. The students donated ₹1,14,500 in all in the Prime Minister's National Relief Fund.
c. The company spent ₹25,51,185 altogether to import 273 air conditioners.
d. The students paid ₹3,18,375 as registration fee in the National Cyber Olympiad.

Exercise 5.14

- a. 1890 b. 5840 c. 4462
- d. 24,702 e. 26,670

Exercise 5.15

- 1. a. Actual - 1058, Estimated - 1000
- b. Actual - 1924, Estimated - 2000
- c. Actual - 2856, Estimated - 2800
- d. Actual - 4144, Estimated - 4200
- e. Actual - 5270, Estimated - 5400
- f. Actual - 7252, Estimated - 7000
- 2. a. Actual - 54,322, Estimated - 60,000
- b. Actual - 1,05798, Estimated - 1,00,000
- c. Actual - 1,92,603, Estimated - 1,80,000
- d. Actual - 2,93,208, Estimated - 3,00,000
- e. Actual - 4,19,549, Estimated - 4,00,000
- f. Actual - 5,58,750, Estimated - 5,40,000

Revision Exercise

- 1. a. 6 b. $8 \times 7 = 56$
- 2. $6 \times 7 = 7 \times 6 = 42$
- 3. $(4 \times 8) \times 2 = 4 \times (8 \times 2) = 64$
- 4. a. 480 b. 234
- 5. a. 78,096 b. 85,792 c. 5,97,154
- 6. Ishan solved 459 puzzles in 27 days.
- 7. a. 3000 b. 3,50,000

Mental Maths

- a. 300×6 b. 1210 c. 10 times
- d. 1 e. 100

Life Skills and Values

- Nimisha will save ₹2160 in a year.

6. Division

Let Us Revise

Equal Sharing

Thus, each child will get 4 nuts.

Equal Grouping

Thus, 3 vases are required.

Repeated Subtraction

Thus, each child will get 4 cashew nuts.

Exercise 6.1

- | | | |
|--|--------------------|------|
| 1. a. 0 | b. 15 | c. 1 |
| 2. a. $30 \div 5 = 6$ | b. $72 \div 9 = 8$ | |
| $30 \div 6 = 5$ | $72 \div 8 = 9$ | |
| 3. a. $(8 \times 6) + 1$, dividend 49 | | |
| b. $(7 \times 9) + 2$, dividend 65 | | |
| c. $(9 \times 3) + 1$, dividend 28 | | |

Exercise 6.2

- | | | | |
|---------|-------|-------|-------|
| 1. a. 9 | b. 6 | c. 8 | d. 9 |
| e. 14 | f. 13 | g. 12 | h. 11 |
| 2. a. 5 | b. 7 | c. 6 | d. 9 |
| e. 16 | f. 16 | g. 13 | h. 14 |

Exercise 6.3

- | | |
|-----------------------|--------------------|
| 1. a. $Q = 12, R = 2$ | b. $Q = 12, R = 3$ |
| c. $Q = 11, R = 3$ | d. $Q = 10, R = 8$ |
| 2. a. $Q = 23, R = 1$ | b. $Q = 22, R = 2$ |
| c. $Q = 14, R = 2$ | d. $Q = 17, R = 4$ |
| e. $Q = 4, R = 4$ | f. $Q = 15, R = 3$ |
| g. $Q = 7, R = 5$ | h. $Q = 9, R = 3$ |
| i. $Q = 7, R = 6$ | j. $Q = 8, R = 1$ |
| k. $Q = 8, R = 8$ | l. $Q = 10, R = 5$ |

Exercise 6.4

- | | | | |
|-----------|--------|--------|--------|
| 1. a. 193 | b. 143 | c. 128 | d. 139 |
| 2. a. 147 | b. 179 | c. 133 | d. 135 |
| e. 127 | f. 132 | g. 122 | h. 124 |

Exercise 6.5

- | | |
|------------------------|---------------------|
| 1. a. $Q = 178, R = 1$ | b. $Q = 137, R = 2$ |
| c. $Q = 158, R = 3$ | d. $Q = 144, R = 4$ |
| 2. a. $Q = 72, R = 1$ | b. $Q = 84, R = 3$ |
| c. $Q = 90, R = 1$ | d. $Q = 120, R = 4$ |
| e. $Q = 119, R = 1$ | f. $Q = 111, R = 2$ |
| g. $Q = 105, R = 2$ | h. $Q = 109, R = 1$ |

Exercise 6.6

- | | | | |
|-----------|---------|---------|---------|
| • a. 1841 | b. 1568 | c. 1481 | d. 1297 |
| e. 947 | f. 998 | g. 1116 | h. 816 |

Exercise 6.7

- | | |
|-------------------------|----------------------|
| 1. a. $Q = 1571, R = 1$ | b. $Q = 2061, R = 2$ |
| c. $Q = 1863, R = 3$ | d. $Q = 1784, R = 4$ |
| 2. a. $Q = 1841, R = 1$ | b. $Q = 1529, R = 2$ |
| c. $Q = 1354, R = 1$ | d. $Q = 864, R = 1$ |
| e. $Q = 862, R = 2$ | f. $Q = 976, R = 2$ |
| g. $Q = 1065, R = 4$ | h. $Q = 996, R = 1$ |

Exercise 6.8

- | | |
|----------------------|---------------------|
| 1. a. $Q = 6, R = 3$ | b. $Q = 78, R = 6$ |
| c. $Q = 495, R = 7$ | d. $Q = 7, R = 89$ |
| e. $Q = 8, R = 76$ | f. $Q = 9, R = 87$ |
| g. $Q = 15, R = 76$ | h. $Q = 65, R = 43$ |
| i. $Q = 99, R = 88$ | |

Problem Solving

- a. There will be 17 pieces of clothing in each shelf.
- b. The cost of each pencil box is ₹42.
- c. There are 36 rows.
- d. 53 festoons were put on each Christmas tree. 3 festoons remained unused.
- e. There are 78 floors in the high-rise building.
- f. Each postman delivered 137 packages.
- g. 539 boxes will be needed to pack 4312 chocolates.
- h. The train covered 72 km in 1 hour.
- i. There are 30 centuries in 3000 years.

Revision Exercise

1. a. 5 b. 48 c. 9 d. 0
2. a. 8, Quotient = 8, Divisor = 7, Dividend = 56
b. 6, Quotient = 6, Divisor = 8, Dividend = 48
c. 7, Quotient = 7, Divisor = 9, Dividend = 63
3. a. $56 \div 7 = 8$ b. $54 \div 6 = 9$
 $56 \div 8 = 7$ $54 \div 9 = 6$
4. a. 21 b. 14 c. 12 d. 19
5. a. $Q = 27, R = 2$ b. $Q = 78, R = 1$
c. $Q = 175, R = 3$ d. $Q = 2281, R = 1$
6. a. $Q = 1289, R = 0$ b. $Q = 690, R = 2$
c. $Q = 223, R = 5$ d. $Q = 352, R = 1$
7. a. $Q = 56, R = 4$ b. $Q = 6, R = 32$
c. $Q = 4, R = 32$ d. $Q = 65, R = 43$
8. There are 45 students in a class.

Mental Maths

- a. 4 b. 4 c. ₹20 d. 2
e. 30

Skills Practice

- a. 53 b. 4 c. 40 d. 146

Life Skills and Values

- 32

7. Factors and Multiples

Exercise 7.1

1. a. $1 \times 18 = 18$
b. $2 \times 9 = 18$
c. $3 \times 6 = 18$
1, 2, 3, 6, 9 and 18 are the factors of 18.

2. a. 1, 2, 3, 6, 9, 18
 b. 1, 3, 7, 21
 c. 1, 2, 4, 7, 14, 28
 d. 1, 2, 3, 5, 6, 10, 15, 30
 e. 1, 2, 3, 6, 7, 14, 21, 42
 f. 1, 3, 5, 9, 15, 45
 g. 1, 7, 49
 h. 1, 2, 3, 6, 9, 18, 27, 54
 i. 1, 2, 4, 8, 16, 32, 64
 j. 1, 2, 3, 4, 6, 8, 9, 12, 18, 24, 36, 72
 k. 1, 3, 9, 27, 81
 l. 1, 2, 3, 5, 6, 9, 10, 15, 18, 30, 45, 90
3. a. 1, 3, 5, 15
 b. 1, 2, 4, 5, 10, 20
 c. 1, 2, 3, 4, 6, 8, 12, 24
 d. 1, 2, 4, 8, 16, 32
 e. 1, 2, 4, 11, 22, 44
 f. 1, 2, 3, 4, 6, 8, 12, 16, 24, 48
 g. 1, 2, 5, 10, 25, 50
 h. 1, 2, 4, 13, 26, 52
 i. 1, 3, 7, 9, 21, 63
 j. 1, 3, 5, 15, 25, 75
 k. 1, 2, 4, 5, 8, 10, 16, 20, 40, 80
 l. 1, 3, 9, 11, 33, 99
4. a. F b. T c. T d. T
 e. T f. F
5. a. 6 b. 4 c. 7 d. 7
 e. 8 f. 12
6. 24
7. a. 30 b. 22

Brain Teaser

•

2	7	3	5
20	6	10	1
24	9	12	15
16	8	14	4

9 and 16 are left.

Exercise 7.2

1. a. 32, 40, 48 b. 36, 45, 54 c. 44, 55, 66 d. 60, 75, 90
e. 76, 95, 114 f. 100, 125, 150
2. a. 36, 60, 72, 108 b. 64, 96, 112
3. a. Yes b. No c. Yes
d. No e. Yes f. No
4. a. T b. F c. T
d. T e. T

8. Prime and Composite Numbers

Exercise 8.1

1. a. 2 b. Twin c. co-prime
2. a. 1 b. 2 c. 3 d. 4
3. a. Prime b. Prime c. Composite d. Prime
4. a. 53, 59, 61, 67, 71, 73, 79, 83, 89, 97
b. 51, 52, 54, 55, 56, 57, 58, 60, 62, 63, 64, 65, 66, 68, 69,
70, 72, 74, 75, 76, 77, 78, 80, 81, 82, 84, 85, 86, 87, 88,
90, 91, 92, 93, 94, 95, 96, 98, 99, 100
5. a. 2 and 3
b. 5 6 7, 11 12 13, 17 18 19
c. $2 + 3 = 5$; $2 + 5 = 7$
d. $3 + 5 = 8$; $5 + 7 = 12$

9. Test for Divisibility

Exercise 9.1

1. a. 14, 36, 48, 72, 230, 424
b. 70, 90, 110, 240, 380
c. 25, 40, 105, 200, 225, 500

- d. 33, 81, 126, 234, 315
 e. 99, 162, 198, 234, 369, 405
 f. 108, 220, 300, 336, 412, 500

2. a. 2 b. 0 c. 5 d. 1

e. 4 f. 4

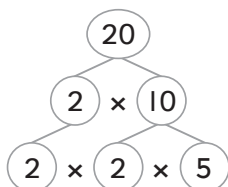
3. $984 + 642 = 1626$; Yes

4. $10 + 15 = 25$; Yes

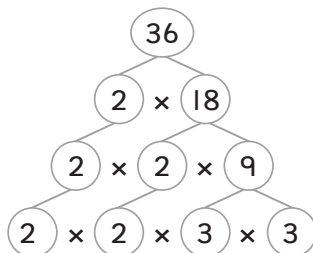
10. Prime Factorisation

Exercise 10.1

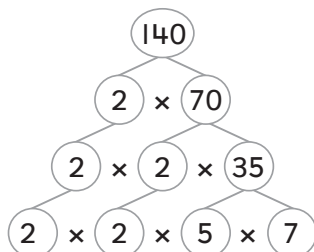
1. a.



b.



c.



2. a. $2 \times 2 \times 2 \times 7$

b. $2 \times 5 \times 7$

c. $2 \times 2 \times 2 \times 2 \times 2 \times 3$

d. $2 \times 2 \times 2 \times 3 \times 5$

e. $2 \times 2 \times 2 \times 2 \times 3 \times 3$

f. $2 \times 5 \times 5 \times 5$

3. a. $2 \times 2 \times 19$

b. $2 \times 2 \times 3 \times 11$

c. $2 \times 3 \times 5 \times 7$

4. a. $2 \times 2 \times 2 \times 2 \times 2 \times 2$
b. $2 \times 2 \times 2 \times 3 \times 3$
c. 2×47
d. $2 \times 2 \times 43$
e. $2 \times 2 \times 2 \times 3 \times 3 \times 3$
f. $2 \times 2 \times 7 \times 11$

II. Highest Common Factor (HCF)

Exercise II.1

1. a. Factors of 20 = 1, 2, 4, 5, 10, 20
Factors of 35 = 1, 5, 7, 35
Common factors = 1, 5
2. a. 1, 3 b. 1, 2, 3, 6
c. 1, 2, 4 d. 1, 2, 3, 4, 6, 12

Exercise II.2

1. a. Factors of 15 = 1, 3, 5, 15
Factors of 25 = 1, 5, 25
Common factors = 1, 5
HCF = 5
- b. Factors of 18 = 1, 2, 3, 6, 9, 18
Factors of 27 = 1, 3, 9, 27
Common factors = 1, 3, 9
HCF = 9
- c. Factors of 20 = 1, 2, 4, 5, 10, 20
Factors of 35 = 1, 5, 7, 35
Common factors = 1, 5
HCF = 5

d. Factors of 48 = 1, 2, 3, 4, 6, 8, 12, 16, 24, 48

Factors of 68 = 1, 2, 4, 17, 34, 68

Common factors = 1, 2, 4

HCF = 4

2. a. 5

b. 6

c. 9

d. 7

e. 3

f. 3

g. 6

h. 12

3. a. 7

b. 9

c. 24

d. 5

e. 6

f. 1

g. 7

h. 4

12. Lowest Common Multiples (LCM)

Exercise 12.1

1. Multiples of 2 are 2, 4, 6, 8, 10, 12, 14, 16, 18, 20

Multiples of 3 are 3, 6, 9, 12, 15, 18, 21, 24, 27, 30

Common multiples of 2 and 3 are 6, 12, 18

2. a. 14

b. 16

c. 18

d. 12

e. 21

f. 24

g. 20

h. 30

Exercise 12.2

1. a. Multiples of 2 = 2, 4, 6, 8, 10, 12, 14, 16

Multiples of 3 = 3, 6, 9, 12, 15, 18, 21, 24

Common multiples = 6, 12

LCM = 6

b. Multiples of 4 = 4, 8, 12, 16, 20, 24, 28, 32

Multiples of 5 = 5, 10, 15, 20, 25, 30, 35, 40

Common multiples = 20

LCM = 20

c. Multiples of 5 = 5, 10, 15, 20, 25, 30, 35, 40

Multiples of 7 = 7, 14, 21, 28, 35, 42, 49, 56

Common multiples = 35

LCM = 35

- d. Multiples of 9 = 9, 18, 27, 36, 45, 54, 63, 72
 Multiples of 12 = 12, 24, 36, 48, 60, 72, 84, 96
 Common multiples = 36, 72
 LCM = 36
- e. Multiples of 6 = 6, 12, 18, 24, 30, 36, 42, 48
 Multiples of 15 = 15, 30, 45, 60, 75, 90, 105, 120
 Common multiples = 30
 LCM = 30
2. a. 24 b. 598 c. 60 d. 210
 e. 54 f. 72 g. 304 h. 264
3. a. 30 b. 630 c. 72 d. 360
 e. 100 f. 192 g. 96 h. 420

Revision Exercise

1. a. 1, 3, 5, 15 b. 1, 2, 13, 26
2. a. 12, 24, 36, 48 b. 15, 30, 45, 60
3. 41, 43, 47, 53, 59, 61, 67, 71, 73, 79
4. a. $2 \times 2 \times 2 \times 3$ b. $2 \times 2 \times 2 \times 3 \times 5$
5. a. 5×13 b. $2 \times 2 \times 2 \times 3 \times 3 \times 3$
6. Factors of 9 = 1, 3, 9
 Factors of 15 = 1, 3, 5, 15
 Common factors = 1, 3
7. Multiples of 3 = 3, 6, 9, 12, 15, 18, 21, 24, 27, 30
 Multiples of 4 = 4, 8, 12, 16, 20, 24, 28, 32, 36, 40
 Common multiples = 12, 24
8. 12
9. 12
10. 441
11. 72

Brain Teaser

- 9 • 36

Mental Maths

- a. 2 b. 2, 5 c. 2 d. 2 and 3
 e. $2 \times 2 \times 3 \times 5$

Life Skills and Values

- 1×18 2×9 3×6
 6×3 9×2 18×1
 Thus, factors of 18 are 1, 2, 3, 6, 9 and 18.

13. Geometry

Let Us Revise

1. a. 4, 4 b. 3, 3 c. opposite, 4 d. no, no

2.



cube

dice

ice cube

Rubik's cube

sugar cube



cuboid

matchbox

geometry box

brick

book



sphere

ball

orange

planet

marble



cylinder

candle

beaker

pipe

gas cylinder



cone

birthday cap

ice cream cone

traffic cone

funnel

3. a. 6 b. 12 c. 1 d. no
e. 1

Exercise 13.1

1. a. point b. line c. ray d. line segment

2. P, Q, R, S, T, U

3. a. $\overline{AB}$, $\overline{BC}$, $\overline{CA}$

b. $\overline{PQ}$, $\overline{QR}$, $\overline{RS}$, $\overline{SP}$

4. a. Intersecting lines

b. Parallel lines

c. Perpendicular lines

5. a. P ————— Q

b. $\dot{O}$

c. A ————— B

d. $\longleftrightarrow$ C D

e. $\longleftrightarrow$ P Q
 $\longleftrightarrow$ S R

f.

6. a. $\overleftrightarrow{AB}$, $\overleftrightarrow{FG}$, $\overleftrightarrow{CD}$

b. $\overrightarrow{OF}$, $\overrightarrow{OA}$, $\overrightarrow{OB}$, $\overrightarrow{OG}$

c. $\overleftrightarrow{AB}$ and $\overleftrightarrow{CD}$, $\overleftrightarrow{FG}$ and $\overleftrightarrow{CD}$

Exercise 13.2

1. a. O b. C c. O d. C

2. a. Triangle

b. Square

c. Pentagon

d. Hexagon

e. Heptagon

f. Octagon

Relation Between the Radius and the Diameter of a Circle

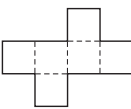
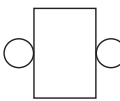
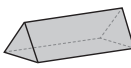
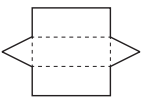
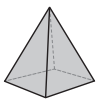
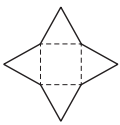
- a. 1, 2 b. 1.5, 3 c. 2, 4

Exercise 13.3

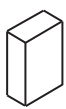
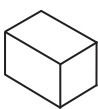
1. a. centre b. circumference
c. longest d. equal e. twice
2. a. O b. CD c. AB, CD d. OE, OD, OC
3. a. OA b. OZ c. NM d. EF
4. a. 14 cm b. 18 cm c. 24 cm d. 38 cm
5. a. 5 cm b. 7 cm c. 13 cm d. 16 cm
7. a. AF b. AC c. BE d. CD
e. FD f. CE g. CF h. AE
i. AD

Exercise 13.4

1. a and c

2. a.  
- b.  
- c.  
- d.  

Exercise 13.5

- a.  cube
- b.  cuboid
- c.  cuboid
- d.  cube

Exercise 13.6

1.

3		
2	5	
1	4	

3		
5		
4	6	7

3		
2	5	
1	7	

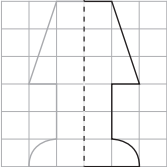
3		
5	6	7
- front view side view back view plan view

2. a. Front view b. Side view c. Plan view

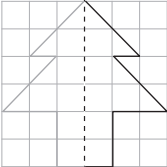
Exercise 13.7

1.

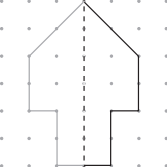
a.



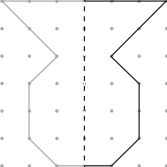
mirror line
- b.



mirror line
- c.

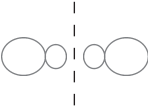


mirror line
- d.

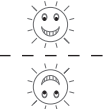


mirror line
- e.


- f.


- g.


- h.


2. a. Yes

b. No

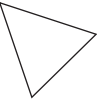
c. Yes

d. No

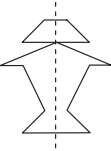
Exercise 13.8

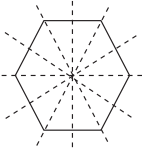
1. b.

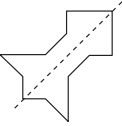

- d.

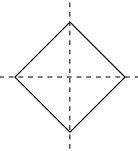

- e.

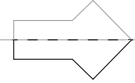

2. a.


- b.


- c.


- d.


3. a.


- b.

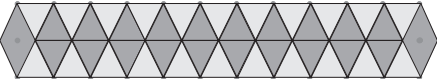

- c.

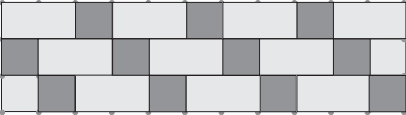

- d.



Exercise 13.10

1. b, c
2. a.


- b.



Revision Exercise

1. a, c, e
2. a. $\overrightarrow{XA}$, $\overrightarrow{XB}$, $\overrightarrow{YD}$
 b. $\overrightarrow{AB}$, $\overrightarrow{CD}$, $\overrightarrow{EF}$
 c. $\overrightarrow{AB}$ intersects $\overrightarrow{EF}$, $\overrightarrow{CD}$ intersects $\overrightarrow{EF}$
 d. $\overrightarrow{AB} \parallel \overrightarrow{CD}$
3. a. O
 b. OD, OC, OE
 c. CD
 d. CD, BA

4. a, c

5.

3	6	
2	5	
1	4	

Front view

6		
5	8	
4	7	9

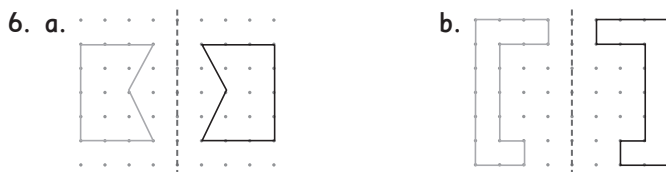
Side view

3	6	
2	8	
1	9	

Back view

3		
6	8	9

Plan view



Mental Maths

- a. l
- b. parallel lines
- c. pentagon
- d. diameter
- e. perspective

Life Skills and Values

- a. 
- b. India Gate, Lotus Temple

14. Perimeter and Area

Exercise 14.1

1. a. 15 cm
 b. 8 cm
 c. 15 cm
 d. 24 cm
2. a. 12 cm
 b. 12 cm
 c. 14 cm

3. a. 120 cm b. 160 cm c. 296 cm
 4. a. 7 cm b. 8 cm c. 6 cm

Exercise 14.2

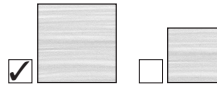
1. a. 12 cm b. 68 cm c. 92 cm d. 224 cm
 2. a. 10 cm b. 164 cm c. 208 cm
 3. a. 42 cm b. 96 cm c. 200 cm d. 10 m
 4. a. The perimeter of the bedsheet is 12 m.
 b. The farmer needs 150 m wire.
 c. The perimeter of the playground is 48 m.

Exercise 14.3

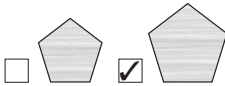
1. a.



b.



c.



2. a. 12 sq.cm b. 56 sq.cm c. 150 sq.cm
 d. 4 cm e. 5 cm f. 16 cm
 3. a. Perimeter - 12 m, Area - 9 sq.m
 b. Perimeter - 16 m, Area - 15 sq.m
 c. Perimeter - 60 m, Area - 200 sq.m
 d. Perimeter - 36 m, Area - 72 sq.m

Finding the Area of the Shaded Portion

- a. 6 sq.cm b. 12 sq.cm c. 14 sq.cm

Finding the Area of the Partial Squares

- a. 4 sq.cm b. 5 sq.cm c. 7 sq.cm

Revision Exercise

1. Ant covered 40 cm.
 2. Field B has greater area.
 3. a. 8 sq.cm b. 9 sq.cm
 4. a. Perimeter - 16 cm, Area - 7 sq.cm
 b. Perimeter - 14 cm, Area - 7 sq.cm
 c. Perimeter - 16 cm, Area - 7 sq.cm

5. Perimeter = 40 cm, Area = 100 sq.cm
6. Perimeter = 86 cm, Area = 420 sq.cm
6. Perimeter of the lawn = 68 m, Area of the lawn = 289 sq.m

15. Measurement

Let Us Revise

- | | | | |
|--------------|-----------|-----------|---------|
| 1. 6 | 2. 2 | 3. 4 | 4. 7 cm |
| 5. 500 grams | 6. 800 ml | | |
| 7. a. 1 kg | b. 2 m | c. 500 ml | |

Exercise 15.1

- | | | | |
|------------------|----------------|---------------|------------|
| 1. a. cm | b. m | c. km | |
| 2. a. 400 cm | b. 600 cm | c. 1200 cm | d. 1400 cm |
| e. 1625 cm | f. 2070 cm | | |
| 3. a. 2 m | b. 4 m | c. 7 m | |
| 4. a. 1 m 23 cm | | b. 3 m 45 cm | |
| c. 16 m 50 cm | | d. 27 m 30 cm | |
| 5. a. 3000 m | b. 5000 m | c. 9000 m | |
| 6. a. 2 km | b. 4 km | c. 7 km | |
| 7. a. 1 km 250 m | | b. 2 km 500 m | |
| c. 4 km 750 m | | d. 7 km 25 m | |
| 8. 1150 cm | 9. 2 m 25 cm | | |
| 10. 8750 m | 11. 1 km 250 m | | |

Exercise 15.2

- | | | |
|---|----------------|----------------|
| 1. a. 11 m 92 cm | b. 38 m 74 cm | c. 93 m 80 cm |
| d. 33 km 703 m | e. 79 km 999 m | f. 72 km 973 m |
| 2. a. 79 m 99 cm | b. 67 m 98 cm | c. 68 m 65 cm |
| d. 45 km 891 m | e. 83 km 784 m | f. 81 km 458 m |
| 3. a. The total length of the ropes is 56 m 57 cm. | | |
| b. The cloth merchant sold 88 m 81 cm cloth on both the days. | | |
| c. Total distance travelled by Aarav was 91 km 900 m. | | |

Exercise 15.3

1. a. 7 m 62 cm b. 12 m 20 cm c. 53 m 22 cm
 d. 13 km 259 m e. 25 km 338 m f. 19 km 052 m
2. a. 43 m 22 cm b. 45 m 16 cm c. 38 m 24 cm
 d. 41 km 140 m e. 42 km 199 m f. 24 km 102 m
3. a. 18 m 35 cm cloth was left with the mother.
 b. The length of the remaining wire in the roll was 44 m 15 cm.
 c. Romi travelled 320 km 125 m by bus.

Exercise 15.4

1. a. 100 g b. 7 kg c. 500 g d. 2 kg
2. a. 4000 g b. 3200 g c. 5100 g d. 7250 g
 e. 6500 g f. 9750 g
3. a. 2 kg b. 7 kg c. 8 kg
4. a. 3 kg 750 g b. 4 kg 500 g c. 5 kg 250 g d. 9 kg 750 g

Exercise 15.5

1. a. 700 g b. 23 kg 750 g c. 42 kg 450 g
2. a. 41 kg b. 27 kg 900 g
 c. 97 kg 750 g d. 71 kg 875 g
3. a. The total weight of the dried fruits was 12 kg 500 g.
 b. Lily's weight is 29 kg 750 g at present.

Exercise 15.6

1. a. 610 g b. 24 kg 400 g c. 24 kg 250 g
2. a. 250 g b. 11 kg 150 g c. 8 kg 250 g
 d. 45 kg 300 g
3. a. The first box was heavier by 4 kg 200 g.
 b. 12 kg 50 g mangoes were left with the fruitseller.

Exercise 15.7

1. a. ml b. l c. ml d. l

Exercise 15.8

1. a. 4000 ml b. 5200 ml c. 7250 ml d. 8500 ml
e. 9750 ml f. 12250 ml
2. a. 3 l b. 6 l c. 8 l
3. a. 1 l 200 ml b. 2 l 750 ml c. 4 l 500 ml d. 5 l 250 ml
e. 7 l 50 ml f. 9 l 500 ml

Exercise 15.9

1. a. 12 l 680 ml b. 11 l 573 ml c. 13 l 267 ml
d. 32 l 690 ml e. 42 l 975 ml f. 58 l 955 ml
2. a. 87 l 750 ml b. 65 l 500 ml c. 120 l 700 ml
d. 106 l 350 ml
3. a. The milkman sold 98 l 945 ml on both the days.
b. Both the buckets have 20 l 750 ml water.

Exercise 15.10

1. a. 3 l 450 ml b. 6 l 300 ml c. 16 l 150 ml
d. 13 l 300 ml e. 4 l 250 ml f. 33 l 150 ml
2. a. 7 l 250 ml b. 9 l 500 ml c. 19 l 150 ml
d. 11 l 300 ml
3. a. The other tank has 8 l water.
b. The car consumed 9 l 250 ml petrol during the day.

Revision Exercise

1. a. 1220 cm b. 7050 m c. 9 m 90 cm d. 6750 g
e. 22500 g f. 5 kg 250 g g. 35400 ml h. 3 l 400 ml
i. 8 l 850 ml
2. a. 65 cm b. 52 m c. 173 m 75 cm d. 90 g
e. 25 kg f. 43 kg 750 g
3. a. 16 cm b. 42 km c. 3 m 3 cm d. 12 g
e. 23 kg f. 12 kg 500 g
4. a. The total length of both the ropes is 74 m 97 cm.
b. Raj weighs 25 kg 430 g.

c. 11 l 250 ml paint is left in the tin.

d. She drives 28 km 575 m in a day.

Mental Maths

- a. 2 kg 650 g b. 3000 ml c. 20 cm d. 800 ml
e. 17 kg

Life Skills and Values

- Aman walked 500 m more than his grandparents.

16. Time

Let Us Revise

1. a. 60 b. 15 c. 30 d. 45
2. a. 4:00, 4'clock b. 4:15, Quarter past 4
c. 4:30, Half past 4 d. 4:45, Quarter to 5

Exercise 16.1

1. a.



b.



c.



d.



2. a. 9:10, 10 minutes past 9 b. 2:25, 25 minutes past 2
c. 12:05, 5 minutes past 12 d. 6:40, 20 minutes to 7
e. 7:55, 5 minutes to 8 f. 3:40, 20 minutes to 4
g. 11:50, 10 minutes to 12
3. a. 3:01 b. 3:12 c. 3:23 d. 3:34

Mystery Box

- 2:13



Exercise 16.2

1. a. a.m. b. a.m. c. p.m. d. p.m.
2. a. 8:00 a.m. b. 10:45 p.m. c. 6:15 a.m. d. 4:30 p.m.

Exercise 16.3

1. a. 02:45 hours b. 12:30 hours c. 01:30 hours d. 18:15 hours
e. 21:30 hours f. 07:20 hours
2. a. 9:10 p.m. b. 8:15 a.m. c. 1:50 a.m. d. 12:30 a.m.
e. 6:45 p.m. f. 3:00 p.m.
3. a. No b. 8 hours c. Yes d. 9 hours

Exercise 16.4

1. a. 600 sec. b. 630 sec.
2. a. 360 seconds b. 900 seconds c. 1230 seconds d. 3040 seconds
3. Swara finished the race first.

Exercise 16.5

1. a. 4 min. b. 6 min. c. 8 min.
2. a. 4 minutes 10 seconds b. 6 minutes 15 seconds
c. 10 minutes 40 seconds d. 14 minutes 30 seconds
3. Manav took 20 minutes to write a letter.

Exercise 16.6

1. a. 240 min. b. 540 min. c. 315 min. d. 390 min.
e. 525 min. f. 610 min.
2. a. 4 hours b. 9 hours c. 20 hours
3. a. 10 hours 20 minutes b. 16 hours 40 minutes
c. 22 hours 30 minutes
4. Neil took more time to complete the assignment.

Exercise 16.7

1. a. 192 hours b. 240 hours c. 68 hours d. 81 hours
e. 159 hours f. 178 hours
2. a. 3 days 3 hours b. 7 days 2 hours c. 14 days 4 hours
3. a. Pallavi took more time to read the book.
b. Train B takes less time to reach Chennai.

Exercise 16.8

1. a. 9 hrs. 55 min. b. 11 hrs. 42 min.
c. 9 hrs. 8 min. 40 sec. d. 15 hrs. 31 min. 5 sec.
2. a. 5 hrs. 20 min. b. 2 hrs. 40 min.
c. 2 hrs. 38 min. 10 sec. d. 6 hrs. 7 min. 5 sec.

3. a. Riya spent 4 hours 15 minutes altogether in both the activities.
 b. The school function took place for 6 hours.
 c. An aeroplane takes less time by 14 hours 45 minutes.
 d. The carpenter took 1 hour 30 minutes more to make the table.

Exercise 16.9

1. a. 30 minutes b. 50 minutes
2. a. Chintu was in the aerobics class for 1 hour 25 minutes.
 b. The baking took place for 45 minutes.

Exercise 16.10

1. a. 4 hrs. b. 2 hrs. 20 min. c. 2 hrs. 25 min.
 d. 1 hr. 40 min. e. 35 min. f. 4 hrs.
2. a. 1:50 a.m. b. 5:40 p.m. c. 12 noon d. 7:50 a.m.
 e. 3:55 p.m. f. 7:00 a.m.
3. a. The Republic Day parade lasted for 1 hour 30 minutes.
 b. Karan slept for 7 hours 45 minutes.
 c. Ronit got ready for school at 7:55 a.m.
 d. Sumit was in the playground for 1 hour 15 minutes.
 e. Heena started at 12:20 p.m.
 f. Priya started studying at 2:50 p.m.

Exercise 16.11

1. a. Anita watched the video for 2 hours approximately.
 b. The man took 3 hours approximately to reach the destination.
 c. The delivery man took 1 hour approximately to deliver the pizza.

Skills Practice

- a. 1:45 b. 3:45 c. 6:45

Exercise 16.12

1. a. 37 days b. 80 days c. 34 days d. 63 days
2. a. January 31 b. April 15 c. July 14 d. October 3
 e. December 5
3. a. The book was delivered in 11 days.
 b. The last date of the exams was April 1.

- c. He spent 18 days in the countryside.
d. The team returned on May 15.

Revision Exercise

1. a.



b.



c.



2. a. 540 minutes b. 345 seconds c. 207 hours
d. 23 hours 45 minutes e. 7 minutes 30 seconds
f. 288 hours g. 5 hours h. 325 minutes
i. 5 minutes j. 1200 seconds
3. a. 2 hours b. 3 hours 20 minutes c. 37 days
d. 41 days
4. a. January 12 b. August 12 c. 2:40 p.m. d. 6:40 a.m.
5. a. The duration of flight was 1 hour 55 minutes.
b. Kavita's birthday comes on October 11.

Mental Maths

- a. second b. 1440 min. c. 280 d. 9:50
e. 10:00 a.m. f. 7:20 a.m. g. 1 hr. 20 min. h. 8 hrs. 15 min.

Life Skills and Values

- Vasudha takes 30 minutes to reach the school.

17. Data Handling

Exercise 17.1

1. a. 70 b. 60 c. 90 d. 50
e. 80 f. 70 g. 420 h. Mathematics
i. Social Studies j. English, Computer
2. a. Favourite Sport b. 14 c. 12
d. 2 e. 4 f. Cricket g. Badminton

3. Sale of Smartphones

Day	Number of smartphones
Monday	    
Tuesday	  
Wednesday	   
Thursday	  
Friday	 
Saturday	
Sunday	     
Each  represents 5 smartphones.	

4. Favourite Picnic Spots

Picnic spot	Number of students
Zoological park	   
Amusement park	       
Children's park	     
Museum	   
Planetarium	 
Each  represents 5 students.	

Exercise 17.2

1. a. Favourite Hobbies

b. Number of Children

c. Hobbies

d. Sports

e. Reading

f. 35

g. 5

h. 30

i. 40

j. 10

k. 225
2. a. Books in the Library

b. Number of Books

c. Type of Books

d. General Knowledge books

e. Poetry books

f. Textbooks, Puzzle books

g. 6
k. 410

h. 70

i. 30

j. 30

Revision Exercise

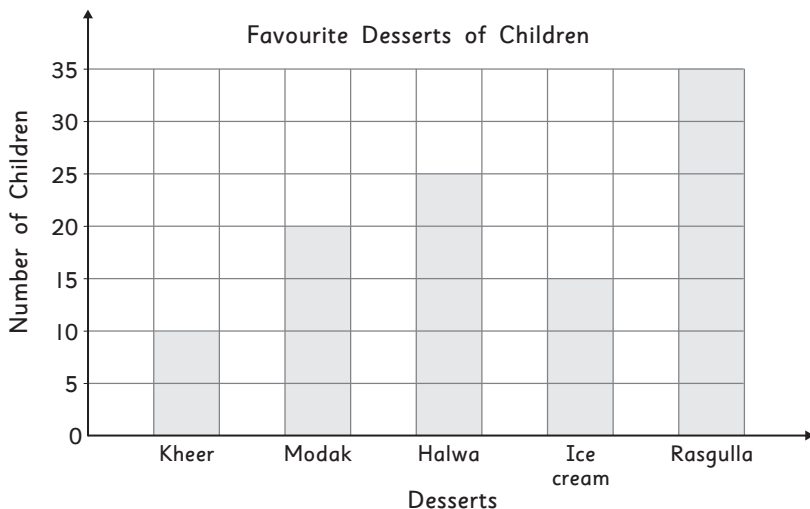
1. a. Domestic Animals in a Farm
c. Horse d. 35 e. 15 b. sheep
f. 25
2. a. Favourite Colours of Students
c. Purple d. 10 e. 2 b. Yellow
f. 2
3. Pictograph

Favourite Desserts of Children

Dessert	Number of children
Kheer	⊗ ⊗
Modak	⊗ ⊗ ⊗ ⊗
Halwa	⊗ ⊗ ⊗ ⊗ ⊗
Ice cream	⊗ ⊗ ⊗
Rasgulla	⊗ ⊗ ⊗ ⊗ ⊗ ⊗ ⊗
Each ⊗ represents 5 children.	

Bar graph

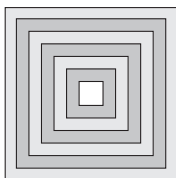
Vertical scale 1 box represents 5 children.
Horizontal scale 1 box represents 1 dessert.



18. Patterns

Exercise 18.1

a.



b.

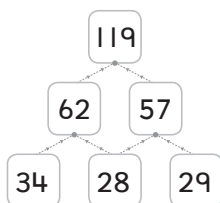


Exercise 18.2

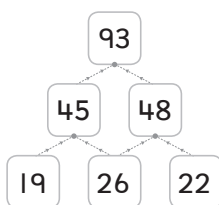
1. a. 5005, 6006, 7007, 8008

b. 5999, 4999, 3999, 2999

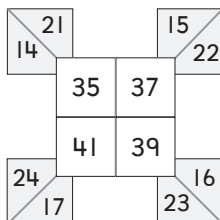
2. a.



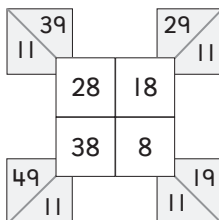
b.



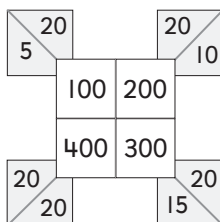
3. a.



b.



c.



Model Test Paper - I

Based on Themes 1, 2 and 3

1. 6,90,467

7,90,467

8,90,467

2. 9,15,043

5,15,043

3,15,043

3. a. = b. < c. >
4. a. 3, 3 b. 60,000, 6
5. 8,65,310 1,03,568
6. a. XV b. XIV c. XX
7. a. $\frac{5}{9}$ b. $\frac{4}{8}$
8. a. $\frac{3}{4}$ b. $\frac{3}{7}$
9. a. 353 b. 227 c. 861 d. 283
10. a. 5689 b. 9065 c. 2531 d. 1104
11. a. 2565 b. 18,767 c. 67,716 d. 28,45,554
12. a. Q = 131, R = 1 b. Q = 63, R = 2
c. Q = 773, R = 8 d. Q = 85, R = 43
13. a. 1 b. 4 c. 4 d. 0
14. a. 1,3,7,21 b. 1,2,3,5,6,10,15,30
15. a. 60, 75, 90 b. 100, 125, 150
16. 41,43,47,53,59,61,67,71,73,79
17. $2 \times 2 \times 2 \times 3 \times 5$
18. 12
19. 1368
20. a. Anne solved $\frac{5}{6}$ of the puzzle in all.
b. 4815 books are there in library now.
c. Juli will burn 24,750 calories in 45 days.
d. 53 festoons were put on each Christmas tree. 3 festoons remained unused.

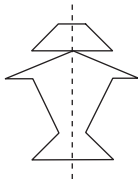
Model Test Paper - II

Based on Themes 4, 5, 6 and 7

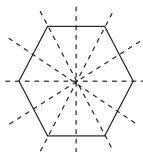
- | | |
|--|--|
| 1. a. $\overrightarrow{XA}$, $\overrightarrow{XB}$ | b. $\overrightarrow{AB}$, $\overrightarrow{CD}$ |
| c. $\overrightarrow{AB}$ intersects $\overrightarrow{EF}$, $\overrightarrow{CD}$ intersects $\overrightarrow{EF}$ | d. $\overrightarrow{AB} \parallel \overrightarrow{CD}$ |

2. a. O b. OD, OC, OE c. CD d. CD, BA
3. a. 1220 cm b. 7050 m c. 5 kg 250 g d. 420 seconds
- e. 35400 ml f. 192 hours
4. a. 173 m 75 cm b. 81 km 458 m
- c. 43 kg 750 g d. 106 l 350 ml
5. a. 3 m 3 cm b. 24 km 102 m
- c. 12 kg 500 g d. 11 l 300 ml
6. a. 2 hours b. 3 hours 20 minutes
- c. 202 days d. 71 days
7. a. January 12 b. 12 August c. 2:40 p.m. d. 6:40 a.m.
8. Perimeter = 14 cm, Area = 7 sq.cm

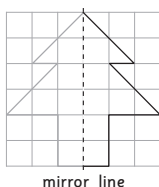
9. a.



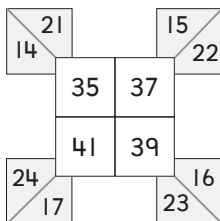
b.



10.



11.



12. a. Total length of both the ropes is 74 m 97 cm.
- b. The family consumed 29 kg 800 g cereals altogether.
- c. 11 l 250 ml paint is left in the tin.
- d. Perimeter = 90 cm, Area = 500 sq.cm
- e. The duration of the flight was 1 hour 55 minutes.

13.

Vertical scale 1 box represents 2 children.
Horizontal scale 1 box represents 1 profession.

