

5

Key to

Soaring Higher and Higher in

MATHEMATICS



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I. Large Numbers

Exercise I.1

1. a. 10000 b. 100000
2. a. 99999 b. 999999
3. a. Fifty-nine thousand eight hundred.
b. Four lakh thirty-eight thousand eighty-seven
c. Six lakh fifty-four thousand three hundred eleven
d. Nine lakh ninety-six thousand forty-three
4. a. 20,608
b. 3,76,543
c. 7,40,713
d. 9,08,907
5. a. Long expanded form: $5 \times 10,000 + 8 \times 1000 + 3 \times 100 + 1 \times 10 + 5 \times 1$
Short expanded form: $50,000 + 8,000 + 300 + 10 + 5$
b. Standard form: 7,63,004
Long expanded form: $7 \times 1,00,000 + 6 \times 10,000 + 3 \times 1,000 + 0 \times 100 + 0 \times 10 + 4 \times 1$
Short expanded form : $7,00,000 + 60,000 + 3,000 + 000 + 00 + 4$
6. a. 52,397
b. 8,42,316
7.

Number	Face value	Place value
a. 54,321	4	4,000
b. 63,846	6	60,000
c. 7,89,654	8	80,000
d. 9,21,083	9	9,00,000
8. a. = b. < c. > d. <
9. a. 4,70,467 5,70,467 6,70,467
b. 3,89,312 7,89,312 9,89,312

10. a. 6,10,102 4,10,012 4,01,103
 b. 9,15,043 8,15,043 7,15,043
11. a. 1,99,998 1,99,999 2,00,000
 b. 8,99,999 9,00,000 9,00,001
12. Greatest number: 754310 Smallest number: 103457
13. Greatest number: 9,98,620 Smallest number: 2,00,689
14. a. 2,23,456 c. 5,01,234
 b. 4,45,678 d. 8,60,543
15. a. 3,32,021 c. 7,92,765
 b. 4,43,213 d. 8,50,120

Exercise 1.2

1. a. 42,45,287 Forty-two lakh, forty-five thousand, two hundred eighty-seven
 b. 53,28,760 Fifty-three lakh, twenty-eight thousand, seven hundred sixty
 c. 6,25,43,678 Six crore, twenty-five lakh, forty-three thousand, six hundred seventy-eight
 d. 7,00,70,707 Seven crore, seventy thousand, seven hundred seven
 e. 86,10,06,453 Eighty-six crore, ten lakh, six thousand, four hundred fifty-three
 f. 99,99,99,999 Ninety-nine crore, ninety-nine lakh, ninety-nine thousand, nine hundred ninety-nine
2. a. 24,18,546
 b. 36,79,652
 c. 4,62,40,911
 d. 6,00,33,124
 e. 79,25,36,478
 f. 98,97,96,959

Exercise 1.3

1. a. **Word Form:** One crore, seventy-one lakh, twenty-five thousand

Long expanded form:

$$1 \times 1,00,00,000 + 7 \times 10,00,000 + 1 \times 1,00,000 + 2 \times 10,000 + 5 \times 1,000$$

Short expanded form:

$$100,00,000 + 70,00,000 + 1,00,000 + 20,000 + 5,000$$

- b. **Word form:** Fourteen crore, ninety-seven lakh, ten thousand

Long expanded form:

$$1 \times 10,00,00,000 + 4 \times 1,00,00,000 + 9 \times 10,00,000 + 7 \times 1,00,000 + 1 \times 10,000$$

Short expanded form:

$$10,00,00,000 + 4,00,00,000 + 90,00,000 + 7,00,000 + 10,000$$

2. Place value Face value

a. 4,000	4
b. 5,000	5
c. 60,000	6
d. 70,00,000	7
e. 8,00,00,000	8
f. 90,00,00,000	9

3. a. 2,99,700

b. 49,95,000

c. 6,30,00,000

d. 89,10,00,000

4. a. **Short expanded form:**

$$40,00,000 + 8,00,000 + 50,000 + 7,000 + 300 + 10 + 5$$

Long expanded form:

$$4 \times 10,00,000 + 8 \times 1,00,000 + 5 \times 10,000 + 7 \times 1,000 + 3 \times 100 + 1 \times 10 + 5 \times 1$$

- b. **Short expanded form:**

$$50,00,000 + 6,00,000 + 10,000 + 4,000 + 300 + 20 + 9$$

Long expanded form:

$$5 \times 10,00,000 + 6 \times 1,00,000 + 1 \times 10,000 + 4 \times 1,000 + 3 \times 100 + 2 \times 10 + 9 \times 1$$

c. Short expanded form:

$$6,00,00,000 + 50,00,000 + 4,00,000 + 30,000 + 4,000 + 200 + 10$$

Long expanded form:

$$6 \times 1,00,00,000 + 5 \times 10,00,000 + 4 \times 1,00,000 + 3 \times 10,000 + 4 \times 1,000 + 2 \times 100 + 1 \times 10$$

d. Short expanded form:

$$7,00,00,000 + 80,00,000 + 6,00,000 + 50,000 + 4,000 + 300 + 1$$

Long expanded form:

$$7 \times 1,00,00,000 + 8 \times 10,00,000 + 6 \times 1,00,000 + 5 \times 10,000 + 4 \times 1,000 + 3 \times 100 + 1 \times 1$$

e. Short expanded form:

$$7,00,00,000 + 80,00,000 + 9,00,000 + 10,000 + 4,000 + 300 + 20 + 9$$

Long expanded form:

$$7 \times 1,00,00,000 + 8 \times 10,00,000 + 9 \times 1,00,000 + 1 \times 10,000 + 4 \times 1,000 + 3 \times 100 + 2 \times 10 + 9 \times 1$$

f. Short expanded form:

$$60,00,00,000 + 30,00,000 + 2,00,000 + 40,000 + 5,000 + 600 + 70 + 9$$

Long expanded form:

$$6 \times 10,00,00,000 + 3 \times 10,00,000 + 2 \times 1,00,000 + 4 \times 10,000 + 5 \times 1,000 + 6 \times 100 + 7 \times 10 + 1 \times 9$$

g. Short expanded form:

$$80,00,00,000 + 9,00,00,000 + 60,00,000 + 2,00,000 + 40,000 + 3,000 + 700 + 50$$

Long expanded form:

$$8 \times 10,00,00,000 + 9 \times 1,00,00,000 + 6 \times 10,00,000 + 2 \times 1,00,000 + 7 \times 100 + 5 \times 10$$

h. Short expanded form:

$$90,00,00,000 + 8,00,00,000 + 70,00,000 + 5,00,000 + 10,000 + 2,000 + 300 + 40 + 5$$

Long expanded form:

$$9 \times 10,00,00,000 + 8 \times 1,00,00,000 + 7 \times 10,00,000 + 5 \times 1,00,000 + 1 \times 10,000 + 2 \times 1,000 + 3 \times 100 + 4 \times 10 + 5 \times 1$$

5. a. 3,65,43,215 b. 7,23,41,800
 c. 15,00,68,436 d. 20,00,05,088
 e. 50,00,99,099
6. a. < d. <
 b. = e. <
 c. > f. <
7. a. 52,46,213 57,18,294 3,15,00,981 9,73,10,472
 b. 6,05,85,932 6,05,86,352 6,05,88,325 6,05,89,532
 c. 88,07,88,778 88,70,88,778 88,77,80,778 88,77,88,770
8. a. 6,89,54,328 4,23,58,404 62,57,429 57,48,895
 b. 9,88,17,102 6,59,00,116 6,50,81,103 3,49,25,493
 c. 99,90,99,090 99,09,99,090 99,09,90,090 90,09,99,090
9. a. 30,00,000 c. 45,67,98,011
 b. 3,10,20,310 d. 89,76,35,458
10. a. 49,99,999 c. 78,27,54,320
 b. 6,69,52,872 d. 92,76,35,456
11. a. 10,23,456 65,43,210
 b. 10,24,578 87,54,210
 c. 23,56,789 98,76,532
12. a. 1,00,23,457 7,75,43,210
 b. 2,00,46,789 9,98,76,420
 c. 1,13,46,789 9,98,76,431
13. a. using different digits 98,76,54,321 12,34,56,789
 b. using three different digits 99,99,99,987 10,00,00,002
14. a. 14,35,302 14,35,402
 b. 2,77,35,216 2,78,35,216
 c. 64,54,23,789 74,54,23,789

Exercise 1.4

1. a. 2,034,056 Two million, thirty-four thousand, fifty-six
b. 45,799,786 Forty-five million, seven hundred ninety-nine thousand seven hundred eighty-six
c. 60,789,521 Sixty million, seven hundred eighty-nine thousand five hundred twenty-one
d. 798,798,798 Seven hundred ninety-eight million, seven hundred ninety-eight thousand seven hundred ninety-eight
e. 990,099,009 Nine hundred ninety million, Ninety-nine thousand nine
2. a. 5,099,455 b. 77,200,346
c. 85,411,679 d. 894,507,103
e. 999,999,999
3. a. 50,000 b. 700,000
c. 8,000,000 d. 60,000,000
e. 50,000,000 f. 900,000,000

4.

	Indian System	International System
a	21,43,965: Twenty-one lakh, forty-three thousand, nine hundred sixty-five	2,143,965: Two million, one hundred forty-three thousand, nine hundred sixty-five
b	3,25,46,718: Three crore, twenty-five lakh, forty-six thousand, seven hundred eighteen	32,546,718: Thirty-two million, five hundred forty-six thousand, seven hundred eighteen
c	70,85,16,403: Seventy crore, eighty-five lakh, sixteen thousand, four hundred three.	708,516,403: Seven hundred eight million, five hundred sixteen thousand, four hundred three.

2. Rounding Numbers

Exercise

- | | | | |
|----------|-------|--------|--------|
| 1. a. 10 | c. 60 | e. 250 | g. 680 |
| b. 10 | d. 70 | f. 450 | h. 990 |
2. a. 100 c. 200 e. 4,600 g. 14,000
b. 400 d. 700 f. 7,300 h. 45,200
3. a. 1,000 c. 2,000 e. 5,000 g. 68,000
b. 1,000 d. 5,000 f. 9,000 h. 96,000
4. 300
5. 700
6. a. 550 to 599 601 to 649
b. 2,450 to 2,499 2,501 to 2,549
c. 10,750 to 10,799 10,801 to 10,849
d. 39,950 to 39,999 40,001 to 40,049
7. a. 42
b. 349
c. 6,575
8. 65 to 69, 71 to 74
9. 750 to 799, 801 to 849

3. Roman Numerals

Exercise

- | | | | |
|----------|--------|--------|---------|
| 1. a. 25 | e. 180 | i. 607 | m. 1040 |
| b. 41 | f. 199 | j. 649 | n. 1400 |
| c. 37 | g. 350 | k. 700 | o. 1940 |
| d. 89 | h. 440 | l. 850 | p. 2025 |
2. a. XV e. LX i. CXL m. MXL
b. XXIII f. LXII j. CCLXXXII n. MCMLXXXI
c. XXXIX g. LXXXVIII k. CCCLVI o. MMDLXXV
d. LII h. XC l. CMXXVII p. MMCMIV

3. a. LI f. DCXLIX
 b. LXIX g. DCCLXVII
 c. LXXXI h. DCCCLXXXV
 d. CCXIV I. MDCX
 e. CCCL j. MMC
4. a. > c. < e. <
 b. < d. > f. >
5. a. 1998 b. 2006 c. 2005
 d. 2004 e. 2001

Revision Exercise

1. a. 11,06,959 Eleven lakh, six thousand, nine hundred fifty-nine
 b. 2,84,53,000 Two crore, eighty-four lakh, fifty-three thousand
 c. 15,26,30,017 Fifteen crore, twenty-six lakh, thirty thousand seventeen
2. a. 2,151,000 Two million, one hundred fifty-one thousand
 b. 50,715,907 Fifty million, seven hundred fifteen thousand nine hundred seven
 c. 243,689,169 Two hundred forty-three million, six hundred eighty-nine thousand, one hundred sixty-nine
3. a. 36,70,652
 b. 6,00,33,124
 c. 29,30,40,560
 d. 41,200,356
 e. 200,500,300
4. a. $7,00,00,000 + 20,00,000 + 30,000 + 5,000 + 500$
 b. $10,00,00,000 + 6,00,00,000 + 7,00,000 + 40,000 + 5,000 + 900 + 10 + 1$
5. a. < b. >
6. a. 1,99,800 b. 6,30,00,000

7. a. 1,65,78,432 b. 5,16,78,098
 8. a. 250 b. 4600 c. 19,000
 9. a. 24 b. 42 c. 199 d. 1700
 10. a. XXVI b. LXXIX c. DXLIII d. MDL

Mental Maths

- a. greatest 7-digit number
 b. 1 crore
 c. 1 Million
 d. 99999
 e. 4,00,400
 f. V, L, D

Life Skills and Values

- a. XXI March b. XXII April
 c. V June d. XVI September

4. Addition and Subtraction

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- a. 80,479 b. 91,234 c. 89,944 d. 1,73,051

Exercise 4.1

1. a. 5,13,797 b. 9,87,924 c. 3,45,782
 d. 68,88,462 e. 58,92,588 f. 92,26,561
 g. 104,50,22 h. 32,37,983 i. 95,91,549
 2. a. 7,88,462 d. 22,49,334
 b. 8,45,272 e. 38,95,898
 c. 98,22,187 f. 5,37,97,919
 3. a. 10,27,490 b. 30,74,400 c. 62,53,393

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- a. 33,161 b. 35781 c. 58,793 d. 46,493

Exercise 4.2

1. a. 2,57,804 b. 2,64,929 c. 2,31,302
 d. 64,80,952 e. 32,29,919 f. 29,60,256
 g. 15,99,023 h. 48,81,517 i. 60,67,062
2. a. 2,91,910 c. 48,77,460
 b. 1,58,062 d. 10,51,091

3. a.

	L	TTh	Th	H	T	O
	5	6	3	4	6	0
-	2	7	2	1	4	4
	2	9	1	3	1	6

b

	L	TTh	Th	H	T	O
	5	9	7	4	9	6
-	3	8	7	6	4	6
	2	0	9	8	5	0

c

	L	TTh	Th	H	T	O
	9	5	4	5	6	3
-	7	2	3	7	6	2
	2	3	0	8	0	1

4. a. 15,188 b. 8,98,000 c. 42,591 d. 2,44,206

5. Multiplication and Division

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- 1 × 2 = 2
 2 × 2 = 4
 3 × 2 = 6
 4 × 2 = 8
 5 × 2 = 10
 6 × 2 = 12
 7 × 2 = 14
 8 × 2 = 16
 9 × 2 = 18
 10 × 2 = 20

- 1 × 3 = 3
 2 × 3 = 6
 3 × 3 = 9
 4 × 3 = 12
 5 × 3 = 15
 6 × 3 = 18
 7 × 3 = 21
 8 × 3 = 24
 9 × 3 = 27
 10 × 3 = 30

- 1 × 4 = 4
 2 × 4 = 8
 3 × 4 = 12
 4 × 4 = 16
 5 × 4 = 20
 6 × 4 = 24
 7 × 4 = 28
 8 × 4 = 32
 9 × 4 = 36
 10 × 4 = 40

- 1 × 5 = 5
 2 × 5 = 10
 3 × 5 = 15
 4 × 5 = 20
 5 × 5 = 25
 6 × 5 = 30
 7 × 5 = 35
 8 × 5 = 40
 9 × 5 = 45
 10 × 5 = 50

- 1 × 6 = 6
 2 × 6 = 12
 3 × 6 = 18
 4 × 6 = 24
 5 × 6 = 30
 6 × 6 = 36
 7 × 6 = 42
 8 × 6 = 48
 9 × 6 = 54
 10 × 6 = 60

- 1 × 7 = 7
 2 × 7 = 14
 3 × 7 = 21
 4 × 7 = 28
 5 × 7 = 35
 6 × 7 = 42
 7 × 7 = 49
 8 × 7 = 56
 9 × 7 = 63
 10 × 7 = 70

$$\begin{array}{l} 1 \times 8 = 8 \\ 2 \times 8 = 16 \\ 3 \times 8 = 24 \\ 4 \times 8 = 32 \\ 5 \times 8 = 40 \\ 6 \times 8 = 48 \\ 7 \times 8 = 56 \\ 8 \times 8 = 64 \\ 9 \times 8 = 72 \\ 10 \times 8 = 80 \end{array}$$

$$\begin{array}{l} 1 \times 9 = 9 \\ 2 \times 9 = 18 \\ 3 \times 9 = 27 \\ 4 \times 9 = 36 \\ 5 \times 9 = 45 \\ 6 \times 9 = 54 \\ 7 \times 9 = 63 \\ 8 \times 9 = 72 \\ 9 \times 9 = 81 \\ 10 \times 9 = 90 \end{array}$$

$$\begin{array}{l} 1 \times 10 = 10 \\ 2 \times 10 = 20 \\ 3 \times 10 = 30 \\ 4 \times 10 = 40 \\ 5 \times 10 = 50 \\ 6 \times 10 = 60 \\ 7 \times 10 = 70 \\ 8 \times 10 = 80 \\ 9 \times 10 = 90 \\ 10 \times 10 = 100 \end{array}$$

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a. 30

c. 68

e. 114

b. 48

d. 90

f. 140

Exercise 5.1

1. a. 2643

b. 3748

c. 1

d. 0

e. 24

f. 1000, 65

g. 604

h. 2360

2. a. 7150

d. 3,94,200

b. 17,860

e. 5,06,000

c. 61,200

f. 26,43,000

3. a. $315 \times 2 \times 10$

d. $1326 \times 5 \times 100$

630×10

6630×100

6300

6,63,000

b. $1020 \times 6 \times 10$

e. $694 \times 4 \times 1000$

6120×10

2776×1000

61,200

27,76,000

c. $534 \times 3 \times 100$

f. $1567 \times 7 \times 1000$

1602×100

$10,969 \times 1000$

1,60,200

1,09,69,000

4. a. 3460

d. $4 \times 50 \times 2091$

200×2091

4,18,200

$$\begin{aligned} & \text{b. } 4 \times 25 \times 826 \\ & 100 \times 826 \\ & 82,600 \end{aligned}$$

$$\begin{aligned} & \text{e. } 4 \times 250 \times 3728 \\ & 1000 \times 3728 \\ & 37,28,000 \end{aligned}$$

$$\begin{aligned} & \text{c. } 5 \times 20 \times 1463 \\ & 100 \times 1463 \\ & 1,46,300 \end{aligned}$$

$$\begin{aligned} & \text{f. } 50 \times 40 \times 7194 \\ & 2000 \times 7194 \\ & 1,43,88,000 \end{aligned}$$

Exercise 5.2

1. a. 62,790 b. 3,68,373 c. 2,30,100 d. 3,93,692
 e. 5,95,728 f. 4,54,410 g. 14,95,892 h. 35,85,176
 i. 51,74,631 j. 76,89,528 k. 30,02,260 l. 1,59,02,262
 m. 2,58,67,889 n. 4,82,26,290 o. 41,99,712
2. a. 19,82,475 d. 37,33,905 kg
 b. 8,30,025 e. 9,98,98,002
 c. 1,76,900 kg f. 40,98,960

Exercise 5.3

- a. 2135 d. 6903 g. 87,33,258
 b. 21,050 e. 5,22,225 h. 1,49,240
 c. 1,72,375 f. 60,37,900 I. 93,70,361

Exercise 5.4

1. a. 1262 d. 0
 b. 0 e. 1
 c. 1 f. 9989
2. a. Q 126 R 3 d. Q 37 R 89 g. Q 41 R 576
 b. Q 778 R 6 e. Q 58 R 76 h. Q 76 R 543
 c. Q 995 R 7 f. Q 69 R 87 I. Q 89 R 988
3. a. 1845
 b. 4739
 c. 37,896
 d. 71,417
 e. 1,25,259
 f. 2,38,345

Exercise 5.5

- | | | |
|-----------------------------|------------------|-----------------|
| 1. a. 312 | d. 392 | g. 6576 |
| b. 185 | e. 436 | h. 6264 |
| c. 225 | f. 1007 | i. 8722 |
| 2. a. Q 34 R 1 | d. Q 713 R 31 | g. Q 12739 R 25 |
| b. Q 153 R 7 | e. Q 1435 R 24 | h. Q 14573 R 29 |
| c. Q 243 R 4 | f. Q 1764 R 3 | I. Q 9473 R 43 |
| 3. a. 44,557 | | |
| b. 3,76,129 | | |
| c. 5,75,682 | | |
| d. 2,73,435 | | |
| e. 6,22,851 | | |
| 4. a. 391 apples | b. 13,125 kg | c. 750 litres |
| d. ₹4491 | e. 12,070 people | f. 1154 |
| g. 3280 | | |
| 5. a. 2,10,000 kg 2800 bags | | |
| b. ₹1,83,750 each | | |

Exercise 5.6

- | | |
|---------|-------|
| • a. 49 | e. 46 |
| b. 10 | f. 90 |
| c. 11 | g. 12 |
| d. 62 | h. 27 |

6. Estimation of the Sum, Difference, Product and Quotient

Exercise

- | | |
|----------------|--------------|
| 1. a. 2,00,000 | d. 8,00,000 |
| b. 5,00,000 | e. 10,00,000 |
| c. 7,00,000 | f. 9,00,000 |
| 2. a. 1,00,000 | d. 5,00,000 |
| b. 2,00,000 | e. 4,00,000 |
| c. 2,00,000 | f. 3,00,000 |

- | | | |
|-------------------|--------------------|--------------------|
| 3. a. 1,20,000 | c. 12,00,000 | e. 14,00,000 |
| b. 6,00,000 | d. 14,00,000 | f. 19,60,000 |
| 4. a. 2784 (3000) | c. 4970 (5000) | e. 12,324 (12,000) |
| b. 3519 (3500) | d. 16,285 (16,000) | f. 12,345 (12,000) |

Revision Exercise

- | | | |
|---------------------------------|----------------|-----------------|
| 1. a. 7,88,462 | c. 22,49,334 | |
| b. 8,45,272 | d. 5,37,97,919 | |
| 2. a. 2,91,910 | c. 48,77,460 | |
| b. 1,58,062 | d. 10,51,091 | |
| 3. a. 30,02,260 | c. 2,58,67,889 | e. 5,03,89,638 |
| b. 1,59,02,262 | d. 4,82,26,290 | f. 6,95,30,560 |
| 4. a. Q 34 R 1 | c. Q 713 R 31 | e. Q 14573 R 29 |
| b. Q 243 R 4 | d. Q 1764 R 3 | f. Q 9473 R 43 |
| 5. a. 34 | c. 12 | |
| b. 90 | d. 27 | |
| 6. a. 9,21,420 | c. 18,22,250 | |
| b. 3,22,233 | d. 12,345 | |
| 7. a. 5,75,03,648 bags of sugar | | |
| b. 5635 litres | | |
| c. 6,16,200 masks | | |
| d. ₹38,004 | | |

Mental Maths

- | | |
|----------------|--------------|
| a. 1,99,99,999 | b. 11,00,099 |
| c. 90,00,000 | d. 7,50,000 |
| e. 1,60,000 | f. 1001 |
| g. 6 | h. 15 |

Life Skills and Values

- $3,85,395 + 5,62,545 = 9,47,940$
- $9,47,940 \div 10 = 94,794$

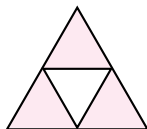
7. Fractions

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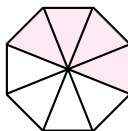
1. a. Numerator

b. Denominator

2. a.



b.



3. $\frac{4}{6}, \frac{3}{6}, \frac{5}{6}$

4. $\frac{4}{22}, \frac{9}{18}, \frac{2}{17}$

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

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

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

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

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

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

c. $\frac{7}{8}$

d. $\frac{11}{12}$

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

b. $\frac{3}{6}$

c. $\frac{4}{9}$

d. $\frac{5}{11}$

Exercise 7.1

1. $\frac{3}{4}, \frac{4}{7}, \frac{7}{9}$

3. $\frac{3}{2}, \frac{4}{3}, \frac{5}{2}, \frac{9}{4}$

2. $1\frac{1}{4}, 2\frac{3}{4}, 6\frac{1}{3}$

4. $\frac{1}{2}, \frac{1}{5}, \frac{1}{8}, \frac{1}{9}$

Exercise 7.2

1. b. $\frac{6}{6} + \frac{3}{6} = \frac{9}{6} = 1\frac{3}{6}$

c. $\frac{3}{3} + \frac{1}{3} = \frac{4}{3} = 1\frac{1}{3}$

d. $\frac{5}{5} + \frac{2}{5} = \frac{7}{5} = 1\frac{2}{5}$

2. a. $1\frac{4}{5}$

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

e. $2\frac{2}{6}$

g. $3\frac{3}{8}$

b. $2\frac{2}{4}$

d. $6\frac{1}{2}$

f. $2\frac{5}{7}$

h. $3\frac{8}{9}$

2. a. $\frac{5}{4}$ c. $\frac{30}{9}$ e. $\frac{29}{6}$ g. $\frac{67}{9}$
 b. $\frac{5}{2}$ d. $\frac{15}{4}$ f. $\frac{50}{8}$ h. $\frac{59}{7}$

Exercise 7.3

1. a. $\frac{1 \times 2}{2 \times 2} = \frac{2}{4}$ b. $\frac{2 \times 3}{3 \times 3} = \frac{6}{9}$ c. $\frac{4 \times 4}{7 \times 4} = \frac{16}{28}$
 d. $\frac{8 \div 2}{24 \div 2} = \frac{4}{12}$ e. $\frac{9 \div 3}{27 \div 3} = \frac{3}{9}$ f. $\frac{16 \div 4}{32 \div 4} = \frac{4}{8}$
 2. a. $\frac{9}{24}$ b. $\frac{28}{77}$ c. $\frac{42}{60}$ d. $\frac{5}{9}$ e. $\frac{7}{8}$
 3. a. $\frac{2}{12}, \frac{3}{18}$ b. $\frac{4}{18}, \frac{6}{27}$ c. $\frac{8}{14}, \frac{12}{21}$
 d. $\frac{12}{36}, \frac{18}{54}$ e. $\frac{48}{96}, \frac{72}{144}$
 4. a. equivalent b. not equivalent c. equivalent
 d. not equivalent e. equivalent
 5. a. $\frac{3}{4}$ b. $\frac{1}{3}$ c. $\frac{2}{3}$ d. $\frac{3}{4}$ e. $\frac{2}{5}$
 6. a. $\frac{1}{3}$ b. $\frac{4}{7}$ c. $\frac{6}{7}$ d. $\frac{3}{4}$ e. $\frac{3}{4}$

Exercise 7.4

1. a.

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

 $\frac{2}{3} = \frac{4}{6}$
 b.

$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$
$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$

 $\frac{7}{8} > \frac{3}{4}$

2. a. $>$ c. $<$ e. $>$ g. $>$
 b. $<$ d. $>$ f. $<$ h. $<$
 3. a. $\frac{8}{12}, \frac{9}{12}$ b. $\frac{15}{18}, \frac{12}{18}$ c. $\frac{16}{56}, \frac{14}{56}$ d. $\frac{10}{16}, \frac{2}{16}$
 4. a. $\frac{3}{8}$ b. $\frac{8}{11}$ c. $\frac{10}{12}$ d. $\frac{7}{11}$
 5. a. $\frac{2}{3}$ b. $\frac{6}{11}$ c. $\frac{3}{4}$ d. $\frac{5}{9}$

$$6. \text{ a. } \frac{1}{7} < \frac{1}{5} < \frac{1}{3} < \frac{1}{2}$$

$$\text{b. } \frac{2}{3} < \frac{3}{4} < \frac{5}{6} < \frac{7}{8}$$

$$\text{c. } \frac{6}{13} < \frac{7}{13} < \frac{9}{13} < \frac{11}{13}$$

$$7. \text{ a. } \frac{10}{11} > \frac{9}{11} > \frac{7}{11} > \frac{5}{11}$$

$$\text{b. } \frac{7}{12} > \frac{7}{14} > \frac{7}{16} > \frac{7}{18}$$

$$\text{c. } \frac{5}{6} > \frac{2}{3} > \frac{1}{2} > \frac{4}{9}$$

$$\text{d. } \frac{11}{15} < \frac{9}{12} < \frac{7}{9} < \frac{5}{6}$$

$$\text{e. } \frac{8}{10} < \frac{10}{12} < \frac{7}{8} < \frac{9}{10}$$

$$\text{f. } \frac{5}{20} < \frac{4}{15} < \frac{3}{10} < \frac{2}{5}$$

$$\text{d. } \frac{5}{8} > \frac{6}{12} > \frac{7}{16} > \frac{8}{20}$$

$$\text{e. } \frac{4}{9} > \frac{5}{12} > \frac{6}{15} > \frac{7}{18}$$

$$\text{f. } \frac{4}{5} > \frac{8}{15} > \frac{10}{20} > \frac{4}{10}$$

Exercise 7.5

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

$$\text{b. } \frac{8}{9}$$

$$\text{c. } \frac{3}{4}$$

$$2. \text{ a. } 5\frac{1}{6}$$

$$\text{b. } 6\frac{8}{15}$$

$$\text{c. } 6\frac{1}{10}$$

$$3. \text{ a. } 1\frac{1}{2} \text{ hours}$$

$$\text{b. } \frac{59}{60}$$

$$\text{d. } \frac{7}{8}$$

$$\text{e. } \frac{7}{9}$$

$$\text{f. } 1\frac{1}{20}$$

$$\text{d. } 9\frac{5}{6}$$

$$\text{e. } 5\frac{10}{21}$$

$$\text{f. } 4\frac{1}{9}$$

$$\text{c. } 6\frac{1}{10} \text{ km}$$

$$\text{d. } 7\frac{11}{12} \text{ hours}$$

$$\text{g. } \frac{17}{24}$$

$$\text{h. } 2\frac{58}{126}$$

$$\text{i. } 1\frac{4}{27}$$

$$\text{g. } 7\frac{11}{12}$$

$$\text{h. } 5\frac{5}{24}$$

$$\text{i. } 9\frac{9}{16}$$

$$\text{e. } 15\frac{3}{8} \text{ kg}$$

Exercise 7.6

$$1. \text{ a. } \frac{1}{12}$$

$$\text{b. } \frac{1}{12}$$

$$\text{c. } \frac{7}{15}$$

$$\text{d. } \frac{1}{35}$$

$$\text{e. } \frac{17}{45}$$

$$\text{f. } \frac{3}{10}$$

$$\text{g. } \frac{1}{8}$$

$$\text{h. } \frac{1}{9}$$

$$\text{i. } \frac{7}{10}$$

$$\text{j. } \frac{2}{15}$$

$$\text{k. } \frac{5}{48}$$

$$\text{l. } \frac{1}{8}$$

2. a. $1\frac{1}{2}$ c. $1\frac{1}{12}$ e. $2\frac{7}{16}$ g. $4\frac{1}{2}$
 b. $\frac{5}{6}$ d. $2\frac{1}{8}$ f. $3\frac{9}{20}$ h. $5\frac{37}{72}$
3. a. $\frac{5}{6}$ c. $1\frac{3}{4}$ e. $2\frac{13}{24}$ g. $2\frac{11}{12}$
 b. $1\frac{11}{20}$ d. $4\frac{23}{24}$ f. $4\frac{13}{18}$ h. $2\frac{27}{35}$
4. a. $\frac{9}{40}$ cups d. $1\frac{11}{12}$ kg
 b. $2\frac{7}{12}$ m e. $1\frac{3}{20}$ m
 c. Sahil jumped longer $\frac{58}{63}$ m

Exercise 7.7

1. a. $\frac{14}{3} = 4\frac{2}{3}$ d. $\frac{20}{3} = 6\frac{2}{3}$ g. $\frac{20}{3} = 6\frac{2}{3}$ j. 14
 b. $\frac{15}{4} = 3\frac{3}{4}$ e. $\frac{45}{7} = 6\frac{3}{7}$ h. 10 k. 27
 c. 8 f. $\frac{66}{7} = 9\frac{3}{7}$ i. 14 l. 22
2. a. 3 days c. 10 raisins
 b. 2 rupees d. 3 months
3. a. 6 books b. $\frac{1}{5}$ km

Exercise 7.8

1. a. $\frac{1}{6}$ d. $\frac{32}{81}$ g. $9\frac{1}{36}$ j. $\frac{3}{140}$
 b. $\frac{1}{6}$ e. $\frac{3}{4}$ h. $26\frac{2}{5}$ k. $\frac{1}{3}$
 c. $\frac{12}{35}$ f. $\frac{35}{44}$ i. $52\frac{7}{8}$ l. $\frac{1}{21}$
2. a. $\frac{1}{20}$ kg b. $\frac{7}{20}$ min. c. $15\frac{2}{3}$ kg

Exercise 7.9

- | | | | | |
|------------------|------------------|-------------------|-------------------|-------------------|
| 1. a. 2 | c. $\frac{5}{4}$ | e. $\frac{1}{8}$ | g. $\frac{8}{15}$ | i. $\frac{3}{11}$ |
| b. $\frac{4}{3}$ | d. $\frac{7}{6}$ | f. $\frac{1}{12}$ | h. $\frac{6}{13}$ | j. $\frac{3}{31}$ |

Exercise 7.10

- | | | | |
|------------------------|---------------------|-------------------|--------------------|
| 1. a. $\frac{3}{8}$ | c. $\frac{8}{77}$ | e. 3 | g. 32 |
| b. $\frac{5}{18}$ | d. $\frac{3}{20}$ | f. 10 | h. $12\frac{1}{2}$ |
| 2. a. $1\frac{15}{49}$ | c. $1\frac{1}{4}$ | e. $\frac{9}{20}$ | g. $4\frac{1}{6}$ |
| b. $\frac{5}{6}$ | d. $2\frac{2}{9}$ | f. $2\frac{1}{4}$ | h. 12 |
| 3. a. $\frac{1}{2}$ kg | b. $\frac{1}{90}$ g | | |

8. Decimals

Exercise 8.1

- | | | | |
|-------------------------|--------------------------|--------|--------|
| 1. a. 0.4 | b. 0.6 | | |
| 2. a. 1.5 | b. $2\frac{5}{10}$, 2.5 | | |
| 3. a. 0.1 | c. 0.3 | e. 0.6 | g. 0.9 |
| b. 1.1 | d. 2.2 | f. 3.5 | h. 5.4 |
| 4. a. 0.2 | d. 3.2 | | |
| b. 0.9 | e. 4.1 | | |
| c. 1.6 | f. 5.7 | | |
| 5. b. seven tenths | d. two and four tenths | | |
| c. one and three tenths | e. three and five tenths | | |
| | f. five and six tenths | | |

Exercise 8.2

1. a. 0.15 b. 0.24
2. a. 1.33 b. $2\frac{42}{100}$, 2.42
3. a. 0.08 c. 0.24 e. 0.47 g. 0.92
 b. 1.12 d. 1.35 f. 2.56 h. 2.75
4. d. 3.02
 b. 0.09 e. 4.03
 c. 1.06 f. 6.05
5. b. fifteen hundredths
 c. one and twenty seven hundredths
 d. two and thirty nine hundredths
 e. three and forty five hundredths
 f. five hundred and seventy five hundredths

Exercise 8.3

1. a. 0.015 c. 5.125 e. 49.675
 b. 3.027 d. 21.345 f. 86.786
2. b. two and one hundred five thousandths
 c. forty nine and seven hundred eighty five thousandths
 d. seventy five and nine hundred forty five thousandths
3. b. 0.090 c. 0.100 e. 0.020
 d. 0.008 f. 0.900
4. a. 5.4 5.5 5.6
 b. 7.14 7.15 7.16
 c. 9.115 9.116 9.117

Exercise 8.4

1. a. $4 + 0.9 + 0.03 + 0.007$ $4 + \frac{9}{10} + \frac{3}{100} + \frac{7}{1000}$
 b. $6 + 0.1 + 0.03 + 0.009$ $6 + \frac{1}{10} + \frac{3}{100} + \frac{9}{1000}$
 c. $10 + 8 + 0.4 + 0.01$ $10 + 8 + \frac{4}{10} + \frac{1}{100}$

$$d. 40 + 6 + 0.3 + 0.02 \qquad 40 + 6 + \frac{3}{10} + \frac{2}{100}$$

$$e. 200 + 60 + 4 + 0.2 + 0.05 + 0.007$$

$$200 + 60 + 4 + \frac{2}{10} + \frac{5}{100} + \frac{7}{1000}$$

$$f. 600 + 40 + 2 + 0.4 + 0.02 + 0.008$$

$$600 + 40 + 2 + \frac{4}{10} + \frac{2}{100} + \frac{8}{1000}$$

$$2. \quad a. 7.2 \qquad b. 29.1 \qquad c. 47.32$$

$$d. 128.134 \qquad e. 792.543$$

$$3. \quad a. 5.723 \qquad b. 6.548 \qquad c. 34.612$$

$$d. 456.725 \qquad e. 742.357$$

Exercise 8.5

$$1. \quad a. 0.2 \qquad d. 4.6 \qquad g. 37.1 \qquad j. 123.4$$

$$b. 0.07 \qquad e. 0.88 \qquad h. 2.43 \qquad k. 56.78$$

$$c. 0.009 \qquad f. 0.096 \qquad i. 0.682 \qquad l. 9.876$$

$$2. \quad a. 0.5 \qquad b. 0.8 \qquad c. 0.45 \qquad d. 0.375$$

$$3. \quad a. 3.7 \qquad b. 5.30 \qquad c. 17.12 \qquad d. 231.007$$

$$4. \quad a. \frac{3}{10} \qquad d. 5\frac{1}{10} \qquad g. 35\frac{17}{100} \qquad j. 15\frac{756}{1000}$$

$$b. \frac{5}{100} \qquad e. \frac{86}{100} \qquad h. 4\frac{29}{100} \qquad k. 85\frac{21}{100}$$

$$c. \frac{7}{1000} \qquad f. \frac{65}{1000} \qquad i. \frac{789}{1000} \qquad l. 99\frac{98}{100}$$

Exercise 8.6

$$1. \quad a. 0.20, 0.200 \qquad b. 1.30, 1.300$$

$$c. 4.670, 4.6700 \qquad d. 7.810, 7.8100$$

$$2. \quad a. 0.300 \quad 0.290 \quad 1.104 \qquad d. 22.100 \quad 2.090 \quad 21.389$$

$$b. 4.600 \quad 7.910 \quad 5.283 \qquad e. 0.600 \quad 52.270 \quad 7.836$$

$$c. 1.982 \quad 1.200 \quad 1.340 \qquad f. 1.290 \quad 2.300 \quad 2.143$$

Exercise 8.7

1. a. $>$ c. $>$ e. $=$
b. $<$ d. $=$ f. $>$
2. a. $0.15 < 0.16 < 0.52 < 0.56$
b. $4.73 < 4.83 < 4.89 < 4.91$
c. $6.2 < 6.202 < 6.249 < 6.29$
d. $17.22 < 17.928 < 18.31 < 18.906$
3. a. $0.912 > 0.192 > 0.129 > 0.091$
b. $8.18 > 7.42 > 6.24 > 4.10$
c. $33.7 > 33.67 > 33.06 > 33.006$
d. $67.1 > 67.01 > 61.07 > 61.107$
4. a. $1.38 < 1.4 < 1.46 < 1.49 < 1.52$
b. $27.5 > 26.8 > 26.2 > 25.9 > 25.4 > 24.8 > 24.3$

Exercise 8.8

1. a. 0.6 d. 43.34 g. 15.77
b. 10.5 e. 15.13 h. 20.021
c. 22.38 f. 23.742 i. 34.01
2. a. 4.571 litres b. 8.1 m

Exercise 8.9

1. a. 1.73 d. 3.75 g. 29.675
b. 4.35 e. 13.71 h. 67.71
c. 3.49 f. 18.54 i. 37.81
2. a. Sachin is heavier by 3.75 kg b. 7.25 m left

Exercise 8.10

- a. 6 e. 20 i. 400
b. 0.7 f. 3 j. 190
c. 0.83 g. 0.9 k. 625
d. 129.5 h. 2986.3 l. 46210.1

Exercise 8.11

- | | | |
|----------------|-----------------|-------------|
| 1. a. 7.5 | d. 14.56 | g. 4.869 |
| b. 37.6 | e. 67.41 | h. 228.744 |
| c. 190.9 | f. 161.85 | i. 2397.836 |
| 2. a. 332.5 km | b. 103.5 meters | c. ₹132 |

Exercise 8.12

- | | | | |
|--------------|-------------|-------------|------------|
| 1. a. 1.44 | c. 17.94 | e. 112.566 | g. 608.928 |
| b. 5.4 | d. 63 | f. 124.335 | h. 593.664 |
| 2. a. ₹78.75 | b. ₹1575.60 | c. 1.875 km | |

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Brain Teaser $(3.84 \times 5) + 4.48 = (4 \times 5.13) + 3.16$

Exercise 8.13

- | | |
|----------|----------|
| a. 0.06 | e. 0.002 |
| b. 0.009 | f. 0.325 |
| c. 0.635 | g. 7.143 |
| d. 3.782 | h. 8.215 |

Exercise 8.14

- | | | |
|--------------------|------------|---------|
| 1. a. 7.3 | d. 2.5 | g. 1.6 |
| b. 1.6 | e. 0.81 | h. 0.22 |
| c. 1.3 | f. 2.48 | i. 7.47 |
| 2. a. 0.275 litres | b. 38.5 km | |

Revision Exercise

- | | |
|------------------------|-------------------------|
| 1. a. 0.9 | b. 5.47 |
| 2. a. $\frac{89}{100}$ | b. $76\frac{321}{1000}$ |
| 3. a. 0.900 | b. 0.007 |
| 4. a. $\frac{16}{28}$ | b. $\frac{25}{45}$ |
| 5. a. 47.32 | b. 742.057 |

9. Factors and Multiples

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Finding Prime Numbers

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

a. 2, 3, 5, 7, 11, 13, 17, 19, 23, 29, 31, 37, 41, 43, 47, 53, 59, 61, 67, 71, 73, 79, 83, 89, 97

b. 4, 6, 8, 9, 10, 12, 14, 15, 16, 18, 20, 21, 22, 24, 25, 26, 27, 28, 30, 32, 33, 34, 35, 36, 38, 39, 40, 42, 44, 45, 46, 48, 49, 50, 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

Exercise 9.1

1. a. 1, 2, 3, 5, 6, 10, 15, 30
b. 1, 2, 3, 6, 9, 18, 27, 54
c. 1, 3, 7, 9, 21, 63
2. a. 1, 2, 3, 4, 6, 8, 12, 24
b. 1, 2, 4, 8, 16, 32
c. 1, 3, 5, 9, 15, 45
3. a. 9, 18, 27, 36, 45
b. 11, 22, 33, 44, 55
c. 13, 26, 39, 52, 65
4. a. 1
b. 2
c. 2, 3
d. no
e. no
f. yes
g. 3,5; 5,7; 11,13; 17,19; 29,31; 41,43; 59,61; 71,73
h. 11,13; 17,19; 29,31; 41,43
i. 23, 37, 53, 73
j. 19 37 59 97
k. 23 61 83 97
- d. 1,2,3,4,6,8,9,18,12,24,36,72
e. 1, 2, 4, 5, 8, 10, 16, 20, 40, 80
f. 1, 3, 9, 11, 33, 99
- d. 1, 2, 4, 8, 16, 32, 64
e. 1, 3, 5, 15, 25, 75
f. 1, 2, 3, 5, 6, 9, 10, 15, 18, 30, 45, 90
- d. 14, 28, 42, 56, 70
e. 17, 34, 51, 68, 85
f. 19, 38, 57, 76, 95

Puzzle

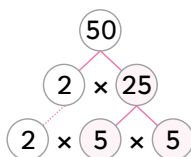
a. 12

b. 5

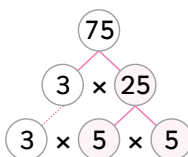
c. 6

Exercise 9.2

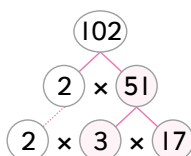
1. a.



b.



c.



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

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

c. $2 \times 3 \times 17$

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

e. $3 \times 5 \times 11$

f. $2 \times 2 \times 3 \times 17$

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

b. $2 \times 2 \times 2 \times 2 \times 7$

c. $2 \times 2 \times 3 \times 11$

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

4. a. $2 \times 2 \times 13$

b. $2 \times 5 \times 7$

c. 3×29

d. 2×47

e. $3 \times 5 \times 7$

f. $3 \times 3 \times 5 \times 7$

Exercise 9.3

1.	Factors	Common Factors	HCF
a.	1, 2, 3, 6, 7, 14, 21, 42 1, 7, 49	1, 7	7
b.	1, 2, 4, 8, 11, 22, 44, 88 1, 3, 9, 11, 33, 99	1, 11	11
c.	1, 3, 5, 7, 15, 21, 35, 105 1, 2, 3, 4, 5, 6, 8, 10, 12, 15, 30, 40, 60, 120	1, 3, 5, 15	15
2. a.	8	e. 30	g. 6
b.	15	f. 27	h. 25
3. a.	8	e. 45	g. 14
b.	12	f. 14	h. 114
	c. 8		
	d. 12		
	c. 25		
	d. 16		

4. a. 17 c. 25 e. 12 g. 81
 b. 36 d. 36 f. 115 h. 25
5. a. 12 b. 24 c. 17

Exercise 9.4

I.	Multiples	Common multiples	LCM
a.	4, 8, 12, 16, 20, 24, 28, 32 6, 12, 18, 24, 30, 36, 42, 48	12, 24	12
b.	12, 24, 36, 48, 60, 72, 84, 96 15, 30, 45, 60, 75, 90, 105, 120	60	60
c.	9, 18, 27, 36, 45, 54, 63, 72 18, 36, 54, 72, 90, 108, 126, 144	36, 72	36
2. a.	100	e. 420	g. 864
b.	72	f. 360	h. 1008
3. a.	72	e. 1728	g. 3024
b.	300	f. 792	h. 2040
4. a.	1224	b. 1267	

Exercise 9.5

I.	HCF	LCM	HCF×LCM	Product
a.	6	36	216	216
b.	5	75	375	375
c.	7	84	588	588
d.	10	120	1200	1200
e.	11	385	4235	4235
2. 48		3. 60	4. 3	5. 6
6. 16		7. 145		

10. Test of Divisibility

Exercise

1. a. 396, 684, 8768 b. 450, 6780, 8680
 c. 350, 5875, 7890 d. 585, 702, 5274
 e. 684, 801, 5247, 6030 f. 356, 604, 1876, 7500
 g. 512, 5000 h. 231, 4620, 7645, 9394
 i. 324, 456, 8766

2. a. • no b. • yes
 • yes • yes
 • no • no
3. a. 2 b. 4, 6, 9 c. 6, 8, 9

Revision Exercise

1. a. 1 b. 2 c. 2, 3
 d. 5, 7, 11, 13 e. 11, 13, 17, 19
2. a. 5 b. 32 c. 12 d. 6
3. a. 6 b. 20 c. 48 d. 35
4. a. 28 b. 36 c. 25 d. 25
5. a. 96 b. 162 c. 360 d. 1008
6. a. 300 b. 792 c. 17,712 d. 2040

7.

	Number	2	3	4	5	6	8	9	10	11
a	240	yes	yes	yes	yes	yes	yes	no	yes	no
b	792	yes	yes	yes	no	yes	yes	yes	no	yes
c	1320	yes	yes	yes	yes	yes	yes	no	yes	yes
d	8136	yes	yes	yes	no	yes	yes	yes	no	no

8. a. 24 b. 1267 c. 60
 d. 6 e. 16

Mental Maths

- a. $2 \times 2 \times 5 \times 7$ b. 1 c. 360
 d. co-primes e. 10 f. 22
 g. 2 and 3 h. 4 i. 26

Skills Practice

- 108 • 915
 • 672 • 594
 • 470 • 360
 • 936

Life Skills and Values

- 12 books

11. Introduction to Negative Numbers

Exercise 11.1

1. a. +3 c. +2 e. 1
 b. -3 d. -2 f. -1
2. a. +23°C b. -6°C c. -58°C
3. a. T b. F c. T
 d. T e. T
4. a. -3 b. -4 c. -6 d. -1
 e. +2 f. +4 g. +8 h. +5
5. -8, -7, -6, -5, -3, -2, -1, +1, +2, +3, +5, +6, +7, +8
6. a. -6, -5, -4, -3 b. -2, -1, 0, +1, +2
 c. -4, -3, -2, -1 d. +2, +3, +4, +5

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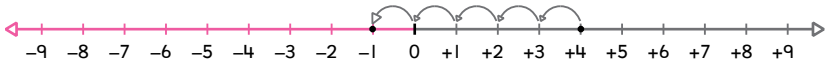
- The temperature of:
 - Bhubaneswar is 23 *degrees Celsius*.
 - Shillong is 9 *degrees Celsius*.
 - Pahalgam is -4 *degrees Celsius*.
 - Leh is -9 *degrees Celsius*.
- Leh is 5 *degrees Celsius* cooler than Pahalgam.
- Bhubaneswar is 14 *degrees Celsius* warmer than Shillong.

Exercise 11.2

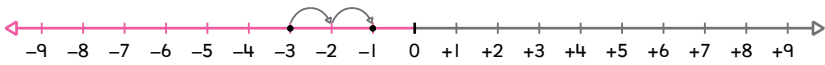
1. a. < f. > k. >
 b. > g. < l. >
 c. < h. > m. >
 d. > i. < n. <
 e. < j. > o. <
2. a. -6, -5, -3, 4, 8 b. -5, -3, -1, 2, 4
 c. -12, -8, -1, 5, 15 d. -19, -3, -1, 8, 16
3. a. 8, 3, 0, -1, -4 b. 8, 5, 0, -3, -4
 c. 10, 0, -2, -7, -12 d. 4, 0, -9, -12, -15
4. a. 0 c. 5 e. 14 g. 27
 b. 3 d. 11 f. 23 h. 35

Exercise 11.3

1. a. -1



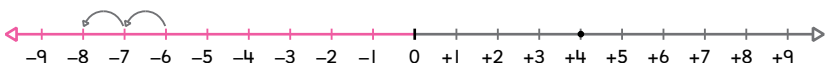
b. -1



2. a. -7



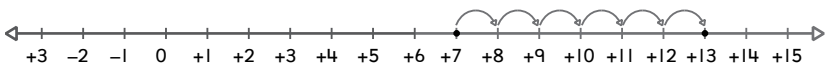
b. -8



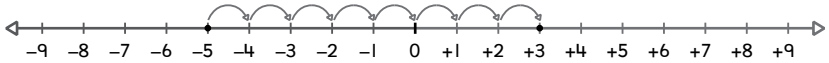
- | | | | |
|------------|----------|----------|----------|
| 3. a. $+5$ | d. $+3$ | g. -4 | j. -8 |
| b. $+9$ | e. $+3$ | h. -2 | k. -15 |
| c. $+13$ | f. -1 | i. $+1$ | l. -15 |
| 4. a. $+2$ | d. 0 | g. -13 | j. -13 |
| b. $+3$ | e. -10 | h. -11 | k. -17 |
| c. $+4$ | f. -9 | i. -5 | l. -22 |

Revision Exercise

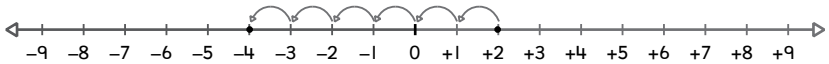
- | | | | |
|--|-------------------------------------|--|---------|
| 1. a. $+1$ | b. -2 | c. -2 | d. -9 |
| 2. a. Leh | b. Bangkok | c. 33°C , 26°C , 0°C , -15°C , -25°C | |
| 3. a. -6 , -5 , -4 , -3 | b. -2 , -1 , 0 , $+1$, $+2$ | | |
| 4. a. $<$ | c. $<$ | e. $<$ | |
| b. $>$ | d. $>$ | f. $<$ | |
| 5. a. -12 , -8 , -1 , 5 , 15 | b. -19 , -3 , -1 , 8 , 16 | | |
| 6. a. 10 , 0 , -2 , -7 , -12 | b. 4 , 0 , -9 , -12 , -15 | | |
| 7. a. 0 | b. 11 | c. 14 | d. 23 |
| 8. a. $+13$ | | | |



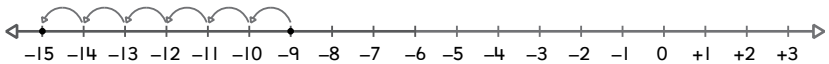
b. +3



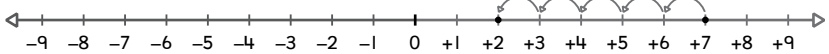
c. -4



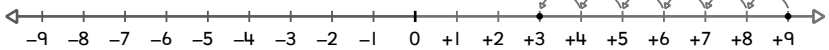
d. -15



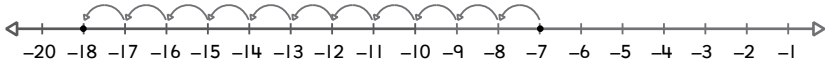
9. a. +2



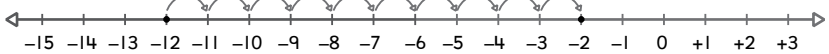
b. +3



c. -18



d. -2



Mental Maths

a. 1

b. negative integers

c. -1, 0, 1

d. 19

e. 25

f. -1

g. -7

12. Geometry

Exercise 12.1

1. b

2. a. arms: $\overrightarrow{BA}$, $\overrightarrow{BC}$

vertex: B

angle: $\angle ABC$

b. arms: $\overrightarrow{EF}$, $\overrightarrow{ED}$

vertex: E

angle: $\angle DEF$

c. arms: $\overrightarrow{NM}$, $\overrightarrow{NO}$

vertex: N

angle: $\angle MNO$

d. arms: $\overrightarrow{QP}$, $\overrightarrow{QR}$

vertex: Q

angle: $\angle PQR$

3. b. $\angle LMN$, $\angle NML$, $\angle M$
 d. $\angle XYZ$, $\angle ZYX$, $\angle Y$

c. $\angle PQR$, $\angle RQP$, $\angle Q$

4. a. $\angle ABC$, $\angle ABD$, $\angle DBC$

b. $\angle VWX$, $\angle VWY$, $\angle VWZ$
 $\angle ZWX$, $\angle ZWY$, $\angle YWX$

c. $\angle SQP$, $\angle PQT$, $\angle SQT$
 $\angle SQR$, $\angle RQT$, $\angle PQR$

5.

b. 30°

c. 120°

d. 50°

e. 150°

f. 180°

6. a. Acute angle

b. Obtuse angle

c. Right angle

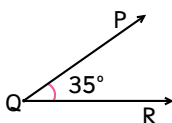
d. Straight angle

e. Obtuse angle

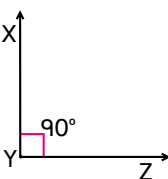
f. Acute angle

Exercise 12.2

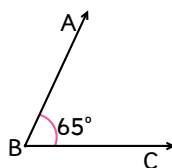
1. a.



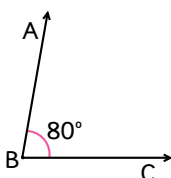
b.



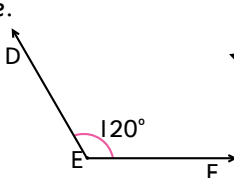
c.



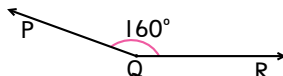
d.



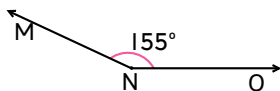
e.



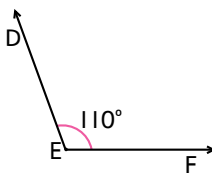
f.



g.

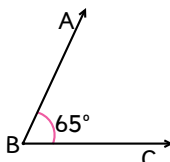
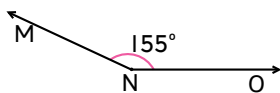


h.



2. a. 155°

b. 65°



Exercise 12.3

1.

a. Parallel lines	b. Intersecting lines
c. Perpendicular lines	d. Perpendicular lines
e. Parallel lines	f. Intersecting lines
2.
 - a. Parallel
 - b. Perpendicular
 - c. Parallel
 - d. Perpendicular
3.

a. True	e. True
b. True	f. True
c. False	g. True
d. False	h. False

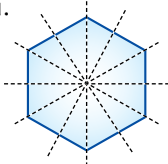
Exercise 12.4

1.
 - a. Triangle
 - b. Equilateral Triangle
 - c. Scalene Triangle
 - d. Obtuse Triangle
2.
 - a. $\triangle XYZ$
 - b. XY, YZ, XZ
 - c. X, Y, Z
 - d. $\angle XYZ$, $\angle YZX$, $\angle YXZ$
3.
 - a. Scalene triangle
 - b. Equilateral triangle
 - c. Isosceles triangle
4.
 - a. Right-angled triangle
 - b. Acute-angled triangle
 - c. Obtuse-angled triangle
 - d. Acute-angled triangle

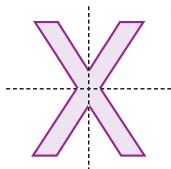
13. Symmetry and Nets

Exercise 13.1

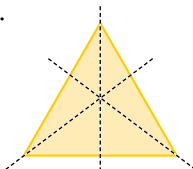
1. a.



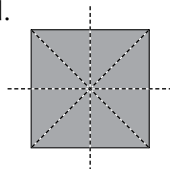
b.



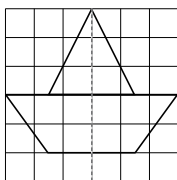
c.



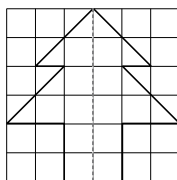
d.



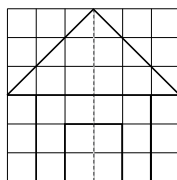
2. a.



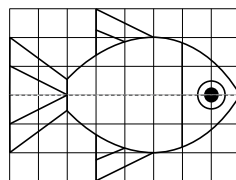
b.



c.



d.

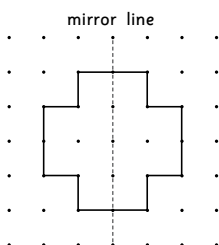


3. a. ☒

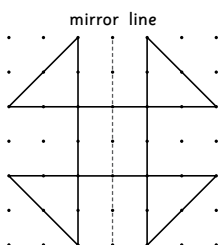
b. ☒

c. ☒

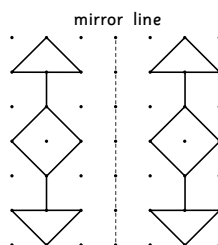
4. a.



b.



c.

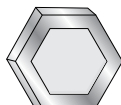


Exercise 13.2

1.

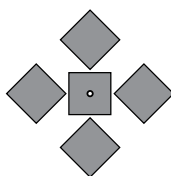
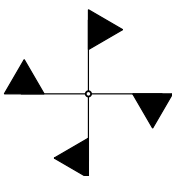
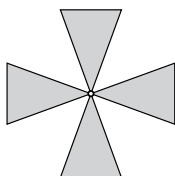


2.

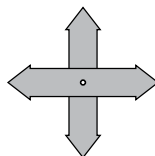
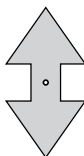
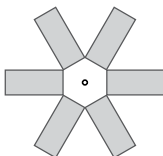


Exercise 13.3

1.



2.

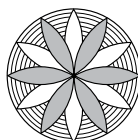
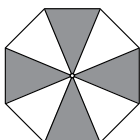


3. 3 times

4 times

4 times

4.



Exercise 13.4

1. c. ☒

2. a. ☒

3. b. ☒

4. a. ☒

5. a. Cuboid

b. Cube

c. Cone

d. Cylinder

Revision Exercise

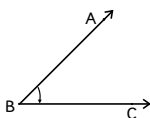
1. a. 100° - obtuse

b. 90° - Right angle

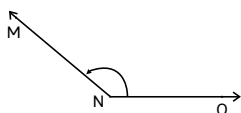
c. 50° - Acute angle

d. 180° - Reflex angle

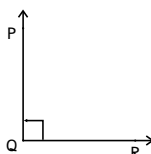
2. a.



c.



b.



d.

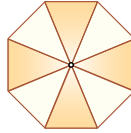
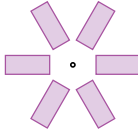


3. a. $\overleftrightarrow{CD} \parallel \overleftrightarrow{EF}$ b. $\overleftrightarrow{AB} \perp \overleftrightarrow{CD}$, $\overleftrightarrow{AB} \perp \overleftrightarrow{EF}$ c. GH, CD GH, EF

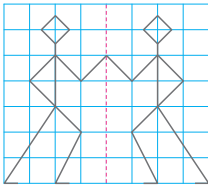
4. a. Equilateral Triangle b. Isosceles Triangle

5. a. 90° Right-angled Triangle b. 120° Obtuse-angled Triangle

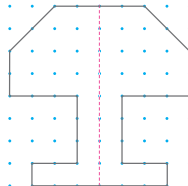
6.



7.



8.



9. a.



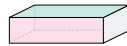
b.



c.



d.



Mental Maths

- a. acute angle b. isosceles triangle
- c. greater than 90° d. T
- e. zero f. more than one

Skills Practice

- a. Park road b. Station road, School road
- c. Station road, School road d. Market road, Park road

Life Skills and Values

- a. Acute angle b. Right angle
- c. Straight angle d. Obtuse angle

14. Perimeter, Area and Volume

Exercise 14.1

- 1. a. $17 + 21 + 17 + 21 = 76$ cm b. $3 + 2 + 3 + 2 = 10$ m
- c. $1.5 + 1 + 1.5 + 1 = 5$ km

2. a. 8 cm b. 12 cm c. 16 cm
 3. a. 10 cm^2 b. 9 cm^2 c. 16 cm^2

4.



☒ sq.cm



☒ sq.cm



☒ sq.m



☒ sq.m



☒ sq.km



☒ sq.km

Exercise 14.2

1. a. 7×9 , 63 cm^2 b. 4.5×3 , 13.5 m^2
 c. 6×6 , 36 cm^2 d. 5.5×5.5 , 30.25 m^2
 e. 21×21 , 441 cm^2 f. 10×20 , 200 cm^2
 g. 24×24 , 576 cm^2 h. 75×30 , 2250 cm^2
 2. a. 108 cm^2 b. 150 cm^2 c. 48 m^2 d. 3 m^2
 3. a. 450 cm^2 b. 3.375 m^2 c. 300 m^2 d. 20 m^2
 e. 980 cm^2 f. 3025 cm^2 g. 576 m^2

Exercise 14.3

1. a. 7 cm b. 6 cm c. 10 cm
 d. 4 m e. 7 m f. 3 m
 2. a. 8 cm b. 12 m c. 12 m d. 24 cm

Exercise 14.4

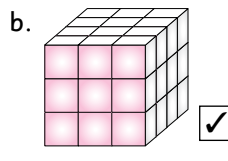
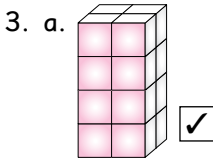
- a. 45 cm^2 b. 43 cm^2 c. 36 cm^2
 d. 32 cm^2 e. 64 cm^2 f. 53 cm^2

Exercise 14.5

- a. 10 cm^2 b. 15 cm^2 c. 11 cm^2 d. 8 cm^2

Exercise 14.6

1. a. 25 cm^3 b. 16 cm^3 c. 32 cm^3 d. 27 cm^3
 2. a. 10 cm^3 b. 13 cm^3 c. 15 cm^3 d. 16 cm^3



4. a. 6

b. 12

c. 12 cm^3

Exercise 14.7

1. a. 48 cm^3

b. 216 cm^3

c. 105 cm^3

d. 125 cm^3

2. a. 5 cm^3

b. 8 cm^3

c. 12 cm^3

3. a. 8 cm^3

b. 840 cm^3

c. 512 cm^3

d. 3600 cm^3

4. a. 40 cu.cm

b. 144 cu.cm

c. 126 cu.cm

d. 112 cu.cm

e. 1050 cu.cm

5. a. 64 cu.cm

b. 729 cu.cm

c. 1728 cu.cm

d. 2197 cu.cm

e. 4096 cu.cm

f. 8000 cu.cm

6. a. 512 cm^3

b. 288 cm^3

c. 1331 cm^3

d. 756 cm^3

Revision Exercise

1. a. 25 cm^2

b. 63 cm^2

c. 24 cm^2

d. 43 cm^2

2. 6 cm^2

3. a. 8 cm

b. 7 cm

c. 4 cm

d. 7 m

4. a. 12 cm^3

b. 27 cm^3

c. 12 cm^3

d. 10 cm^3

5. a. 288 cm^3

b. 15625 cm^3

c. 13125 cm^3

6. a. 3.375 m^2

b. 24 cm

c. 1800 cm^3

d. 110592 cm^3

Mental Maths

1. a. 80 cm

b. 180 sq. cm

c. 100 sq. cm

d. cubic units

e. length

f. $l \times b \times h$

g. 125

i. 1 cu.m

Skills Practice

1. a. B

b. C

Life Skills and Values

• 144000 cm^3

15. Metric Measures

Exercise 15.1

- | | | | |
|----------------|------------|-----------------|------------|
| • a. 1000 m | b. 100 dam | c. 10 hm | d. 1000 dm |
| e. 10 m | f. 100 cm | g. 10 dm | h. 1000 mm |
| i. 1,00,000 cm | | j. 10,00,000 mm | |

Exercise 15.2

- | | | | |
|---------------|-------------|-------------|-------------|
| • a. 1500 dam | b. 20,000 m | c. 35000 dm | d. 54000 cm |
| e. 42000 mm | f. 5 km | g. 62 m | h. 76 dm |
| i. 89 hm | j. 99 dam | | |

Exercise 15.3

- | | | | |
|---------------|----------------|--------------|------------|
| 1. a. 1592 mm | b. 537.5 dm | c. 79.75 hm | |
| d. 98.5 mm | e. 1156.2 m | f. 2.532 cm | |
| g. 3.425 m | h. .4519 km | i. 6.025 dam | |
| 2. a. 9.62 m | b. 5315 cm | c. 8.500 km | e. 15830 m |
| 3. a. 2500 cm | b. on Saturday | c. Arnav | |

Exercise 15.4

- | | | | |
|----------------|-----------------|----------|------------|
| • a. 1000 g | b. 100 dag | c. 10 hg | d. 1000 dg |
| e. 10 g | f. 100 cg | g. 10 dg | h. 1000 mg |
| i. 1,00,000 cg | j. 10,00,000 mg | | |

Exercise 15.5

- | | | | |
|-------------|-------------|------------|------------|
| • a. 5000 g | b. 1200 dag | c. 7000 dg | d. 7500 cg |
| e. 15000 mg | f. 4 kg | g. 53 dg | h. 97 kg |
| i. 8.2 g | j. 46 g | | |

Exercise 15.6

- | | | |
|------------------------|------------------------|--------------|
| 1. a. 38750 mg | b. 655 g | c. 90250 g |
| d. 125450 dg | e. 79850 cg | f. 8594.2 mg |
| g. 6.5 g | h. 5.2348 kg | i. 7.4505 kg |
| 2. a. 5783 mg | b. 7865 g | c. 89635 cg |
| d. 1 g 2 dg 5 cg 0 mg | e. 5 hg 4 dag 0 g 3 dg | |
| f. 7 kg 8 hg 4 dag 5 g | | |
| 3. a. 5.5 kg > 5050 g | b. 2.05 g < 2500 mg | |

- c. $64 \text{ dag} = 6400 \text{ dg}$ d. $750 \text{ hg} > 7050 \text{ g}$
 e. $10.75 \text{ kg} = 1075 \text{ dag}$ f. $78433 \text{ g} > 78.43 \text{ cg}$

4. a. Yes b. 4000 kg c. Sohan

Exercise 15.7

1. a. 1000 l b. 100 dal c. 10 hl d. 1000 dl
 e. 10 l f. 100 cl g. 10 dl h. 1000 ml
 i. 100000 cl j. 1000000 ml

Exercise 15.8

1. a. 1600 l b. 9000 ml c. 370 l d. 4300 ml
 e. 5200 cl f. 7 kl g. 2 hl h. 33 cl
 i. 45 hl j. 59 hl

Exercise 15.9

1. a. 6250 ml b. 15167 ml c. 90250 dl d. 125450 dl
 e. 4 dal f. 75 cl g. 4.05 l h. 2.35 hl
 i. 7.4505 kl
 2. a. $7.5 \text{ kl} > 7050 \text{ l}$ d. $875 \text{ hl} > 87.50 \text{ l}$
 b. $4.05 \text{ l} < 4500 \text{ ml}$ e. $10.75 \text{ kl} = 1075 \text{ dal}$
 c. $95.5 \text{ dal} = 9550 \text{ dl}$ f. $99.75 \text{ l} > 990.75 \text{ cl}$
 3. a. Hari's b. Yes c. 4.25 hl d. 32.940 kl

Exercise 15.10

1. a. $7 \text{ m } 7 \text{ dm } 1 \text{ cm}$ g. 47.75 cm
 b. $9 \text{ km } 1 \text{ hm } 7 \text{ dam } 6 \text{ m}$ h. 29.420 km
 c. $8 \text{ kg } 8 \text{ hg } 3 \text{ dag } 2 \text{ g}$ i. 89.05 g
 d. $15 \text{ g } 840 \text{ mg}$ j. 8.285 km
 e. $171 \text{ l } 8 \text{ cl } 2 \text{ ml}$ k. 12.254 l
 f. $4 \text{ kl } 167 \text{ l}$ l. 11.711 kl
 2. a. $66 \text{ m } 77 \text{ cm}$ b. $8 \text{ km } 862 \text{ m}$ c. $4 \text{ g } 3 \text{ dg } 3 \text{ cg}$
 d. $13 \text{ kg } 125 \text{ g}$ e. $5 \text{ l } 250 \text{ ml}$
 f. $3 \text{ kl } 3 \text{ hl } 3 \text{ dal } 4 \text{ l}$ g. 1.27 m h. 3.515 km
 i. 3.217 g j. 4.625 kg k. 3.9 l
 l. 5.45 kl

- | | | |
|------------------|--------------|--------------|
| 3. a. 429km 375m | b. 11m 2cm | c. 28kg 950g |
| d. 3g 7dg 3cg | e. 60l 775ml | f. 3l 250ml |

Exercise 15.11

- | | | |
|------------------------|-------------------|------------------|
| 1. a. 322 m 65 cm | b. 158 m 694 mm | |
| c. 23 m 9 dm 2 cm 5 mm | | |
| d. 193 km 382 m | e. 18l g 200 mg | |
| f. 52 kg 7 hg 4 dag | g. 147 kg | h. 50l 190 ml |
| i. 65l 2 dl 8 cl | j. 45 kl 290l | |
| 2. a. 9 m 8 dm 5 cm | b. 65 m 12 cm | c. 1 km 245 m |
| d. 14 g 64l ml | e. 692 g | f. 3 hg 8 dag 8g |
| g. 188l | h. 10 hl 3 dal 4l | i. 715 ml |
| j. 375l | | |
| 3. a. 66 cm | b. 2l km 175 m | c. 9 g |
| d. 39 kg 750 g | e. 142l 500 ml | f. 14 km per hr |

16. Measures of Time

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- | | |
|------------------|----------------|
| 1. a. 3:15 hours | d. 14:30 hours |
| b. 23:20 hours | e. 18:50 hours |
| c. 01:45 hours | f. 08:10 hours |
| 2. a. 10:00 p.m. | d. 00:10 a.m. |
| b. 3:05 a.m. | e. 7:15 p.m. |
| c. 5:25 a.m. | f. 4:40 p.m. |

Exercise 16.1

- | | | |
|----------------------|-------------------|-------------------|
| 1. a. 21 days | c. 66 days | e. 20 days |
| b. 47 days | d. 37 days | f. 35 days |
| 2. a. 744 hours | c. 644 hours | e. 2198 hours |
| b. 1320 hours | d. 1744 hours | f. 1044 hours |
| 3. a. 480 minutes | c. 445 minutes | e. 255 minutes |
| b. 580 minutes | d. 355 minutes | f. 190 minutes |
| 4. a. 18,900 seconds | c. 26,740 seconds | e. 31,225 seconds |
| b. 16,500 seconds | d. 33,917 seconds | f. 12,045 seconds |

5. a. Dhruv swan faster by 40 seconds
b. 795 seconds

Exercise 16.2

1. a. 5 minutes 45 seconds d. 4 weeks 2 days
b. 9 hours 7 minutes e. 2 months 6 days
c. 14 days 14 hours f. 3 years 3 months
2. • 5 months 20 days

Exercise 16.3

1. a. 18 hrs 28 min. 58 sec. b. 13 hrs 16 min. 5 sec.
c. 29 days 4 hours d. 18 years 1 month
2. a. 2 minutes 10 seconds b. 4 hours 35 minutes

Exercise 16.4

1. a. 6 hrs 29 min. 55 sec. b. 4 weeks 4 days 20 hours
c. 4 days 19 hours d. 3 years 6 months
2. a. 2 years 9 months b. 12:30 p.m.

Exercise 16.5

1. a. 70 km/hr. b. 123 km/hr c. 84 km/hr
d. 550 km/hr e. 40 km/hr

17. Money

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1. a. ₹0.25 c. ₹70.85
b. ₹5.75 d. ₹99.05
2. a. 9 rupees 50 paise c. 100 rupees 75 paise
b. 50 rupees 5 paise d. 999 rupees 25 paise

Conversation of Rupees into Paise

- a. 900 paise b. 4500 paise

Conversation of Rupees and Paise into Paise

- a. 1825 paise b. 3205 paise

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Conversation of Paise into Rupees and Paise

a. ₹2.75

b. ₹75.50

Compare and put the correct sign $>$, $<$ or $=$ in the given space

a. $<$

c. $>$

e. $<$

b. $=$

d. $<$

f. $<$

Exercise 17.1

1. a. ₹38.70

d. ₹122.40

b. ₹476.25

e. ₹187.65

c. ₹689.35

f. ₹532.10

2. a. ₹19.90

d. ₹324.70

b. ₹62.75

e. ₹239.45

c. ₹50.65

f. ₹514.90

Exercise 17.2

a. ₹227.50

c. ₹2,796.50

e. ₹12,004.00

b. ₹1844

d. ₹2,201.50

f. ₹19,964.25

Exercise 17.3

a. ₹9.10

c. ₹105.25

e. ₹44.50

b. ₹25.75

d. ₹75.45

f. ₹149.45

Exercise 17.4

I.

HEALTHY DAIRY STORE				
No. 101			Date: _____	
S.No.	Description	Quantity	Price per unit	Amount
1.	Milk	2 l	57.00	114.00
2.	Bread	1 pkt	40.00	40.00
3.	Egg	6 pcs	7.00	42.00
4.	Butter	100 g	55.00	55.00
5.	Yogurt	100 g	15.00	15.00
Total				266.00
Two hundred sixty-six only				

2. a. No. 102

No. 102				Date: _____
S.No.	Description	Quantity	Price per unit	Amount
1.	Toothpaste	1	120.00	120.00
2.	Toothbrushes	2	35.00	70.00
3.	Tongue cleaner	1	35.00	35.00
4.	Bath soaps	2	45.00	90.00
5.	Talcum powder	1	128.00	128.00
Total				443.00
Four hundred forty-three only				

b. No. 103

No. 103				Date: _____
S.No.	Description	Quantity	Price per unit	Amount
1.	Paper napkin packet	1	25.00	25.00
2.	Bournvita pouches	2	204.00	408.00
3.	Mini hand sanitizer	1	45.00	45.00
4.	Hair oil bottle	1	115.00	115.00
5.	Water bottle	1	249.00	249.00
Total				842.00
Eight hundred forty-two only				

c. No. 104

No. 104				Date: _____
S.No.	Description	Quantity	Price per unit	Amount
1.	Geometry box	1	145.00	145.00
2.	Pencils	4	8.00	32.00
3.	Erasers	2	10.00	20.00
4.	Gum Stick	1	35.00	35.00
5.	Water Colour box	1	160.50	160.50
6.	Pencil Sharpener	1	12.00	12.00
Total				404.50
Four hundred four and fifty paise only				

d. No. 105

No. 105				Date: _____
S.No.	Description	Quantity	Price per unit	Amount
1.	Sketch pens packet	2	50.00	100.00
2.	Shoe polish bottle	1	76.00	76.00
3.	Tiffin box	1	325.00	325.00
4.	School bag	1	775.00	775.00
5.	Water bottle	1	249.00	249.00
Total				1525.00
One thousand five hundred Twenty-five only				

e. No. **106** Date: _____

S.No.	Description	Quantity	Price per unit	Amount
1.	Pencils	4	8.00	32.00
2.	Geometry box	1	145.00	145.00
3.	Water colour boxes	5	160.50	802.50
4.	Crayons packets	5	12.50	62.50
5.	Sketch pens packet	1	50.00	50.00
Total				1092.00
One thousand ninety-two				

Exercise 17.5

- a. ₹40.50 b. ₹47.50 c. ₹8 d. ₹140

Exercise 17.6

1. b. $SP < CP = L$ ₹2575 – ₹2350 = ₹225 Loss
 c. $SP > CP = P$ ₹3925 – ₹3700 = ₹225 Profit
 d. $SP < CP = L$ ₹6480 – ₹5990 = ₹490 Loss
 e. $SP > CP = P$ ₹11290 – ₹9790 = ₹1500 Profit
2. a. ₹11 b. ₹150 Loss

Exercise 17.7

1. a. ₹6850 b. ₹3800 c. ₹3740
 d. ₹2500 e. ₹8250
2. a. ₹2,440 b. ₹25,500

Exercise 17.8

1. a. ₹1900 b. ₹2080 c. ₹6025
 d. ₹4520 e. ₹6440
2. a. 3896 b. 8575

Revision Exercise

1. a. 20,000m f. 4 dal
 b. 620 dm g. 21 days
 c. 38,750 g h. 445 min.
 d. 5.2347 kg i. 14 days 14 hours
 e. 5200 cl j. 3205 paise

2. a. < c. > e. <
b. < d. > f. >
3. a. 9 km 1 hm 7 dam d. 89.05 g
b. 13 hrs 16 min 5 sec e. 11.711 kl
c. 29 days 4 hours f. ₹708.57
4. a. 8 km 862 m d. 3.217g
b. 6 hrs 29 min 55 sec e. 5.45 kl
c. 3 years 6 months f. ₹514.90
5. a. 158m 694mm c. 52kg 74hg 4dag e. 45kl 290l
b. 193km 382m d. 50l 190 ml f. ₹2201.5
6. a. 32 m 56 cm c. 10 hl 3 dal 4 l e. 14g 64l mg
b. 1 km 245 m d. 375 l f. ₹149.45
7. a. SP > CP 449 Profit
b. SP > CP 825 Profit
c. SP < CP 490 Loss

8.

No. 106			Date: _____	
S.No.	Description	Quantity	Price per unit	Amount
1.	Notebooks	2	25.00	50.00
2.	Erasers	2	8.50	17.00
3.	Crayon box	1	55.00	55.00
4.	Scale	1	15.50	15.50
	Total			137.50
One hundred thirty-seven and fifty paise				

9. a. 11m .02cm b. 60l 775 ml
c. 28km 525 m d. Bunny swan faster by 40 sec
e. 90 km/h f. ₹22.50
g. ₹21,990.00 h. ₹24,600

Mental Maths

- a. millilitre b. 100 c. 32 hg
d. 7 mm e. 2.823 km f. 7.5025l
g. 25 h. Cost price + profit
i. 168

18. Introduction to Percentage

Exercise 18.1

- | | | |
|-----------|--------|--------|
| 1. a. 25% | b. 37% | c. 46% |
| d. 69% | e. 73% | |
-
- | | | | |
|------------------------|-----|---------------------|-----|
| 2. a. $\frac{50}{100}$ | 50% | f. $\frac{50}{100}$ | 50% |
| b. $\frac{70}{100}$ | 70% | g. $\frac{75}{100}$ | 75% |
| c. $\frac{65}{100}$ | 65% | h. $\frac{80}{100}$ | 80% |
| d. $\frac{76}{100}$ | 76% | i. $\frac{84}{100}$ | 84% |
| e. $\frac{66}{100}$ | 66% | j. $\frac{16}{100}$ | 16% |

Exercise 18.2

- | | | | |
|-------------------------|-----------------------|----------------------|--------|
| 1. a. $16\frac{2}{3}\%$ | e. $83\frac{1}{3}\%$ | i. $58\frac{1}{3}\%$ | m. 25% |
| b. $12\frac{1}{2}\%$ | f. $44\frac{4}{9}\%$ | j. $36\frac{2}{3}\%$ | n. 40% |
| c. $12\frac{1}{9}\%$ | g. 75% | k. 80% | o. 60% |
| d. $66\frac{2}{3}\%$ | h. $45\frac{5}{11}\%$ | l. 75% | p. 60% |
-
- | | |
|-------------------------|-----------------------------|
| 2. a. $77\frac{7}{9}\%$ | b. Girls: 62.5% Boys: 37.5% |
| c. $33\frac{1}{3}\%$ | d. $36\frac{4}{11}\%$ |

Exercise 18.3

- | | | | | |
|----------------------|--------------------|--------------------|--------------------|---------------------|
| 1. a. $\frac{1}{10}$ | c. $\frac{17}{50}$ | e. $\frac{11}{20}$ | g. $\frac{18}{25}$ | i. $\frac{83}{100}$ |
| b. $\frac{1}{5}$ | d. $\frac{12}{25}$ | f. $\frac{31}{50}$ | h. $\frac{3}{4}$ | j. $\frac{24}{25}$ |
-
- | | | | |
|-----------------------|---------------------|--------------------|------------------|
| 2. a. $\frac{11}{20}$ | b. $\frac{71}{100}$ | c. $\frac{31}{50}$ | d. $\frac{3}{5}$ |
|-----------------------|---------------------|--------------------|------------------|

Exercise 18.4

- | | | | | |
|-----------|--------|-------|--------|---------|
| 1. a. 20% | d. 70% | g. 1% | j. 25% | m. 62% |
| b. 30% | e. 80% | h. 5% | k. 32% | n. 145% |
| c. 50% | f. 90% | i. 7% | l. 44% | o. 175% |
2. a. = c. = e. <
b. < d. > f. >
3. a. 45% b. 2%

Exercise 18.5

- | | | | | |
|------------|---------|---------|---------|---------|
| 1. a. 0.07 | c. 0.15 | e. 0.49 | g. 0.71 | i. 1.04 |
| b. 0.09 | d. 0.38 | f. 0.62 | h. 0.93 | j. 1.27 |
2. a. 0.70 b. 0.97 c. 0.09 d. 0.03

Exercise 18.6

- | | | | |
|----------------------|-------|-------|--------|
| 1. a. $6\frac{2}{5}$ | c. 15 | e. 32 | g. 144 |
| b. 9 | d. 14 | f. 75 | h. 441 |
2. a. $1\frac{4}{5}$ m c. $1\frac{4}{5}$ kg e. 200 ml g. ₹1
- b. 2 km d. 187.5g f. 150 ml h. ₹50
3. a. 38 Students b. ₹2,500 c. 24 min

Exercise 18.7

- | | | | |
|----------|-------|-------|-------|
| 1. a. 10 | c. 20 | e. 40 | g. 91 |
| b. 40 | d. 70 | f. 60 | h. 25 |
2. a. 50% c. 5% e. 20% g. 45%
- b. 50% d. 10% f. 25% h. 60%
3. a. 25% b. 70% c. 80%

Revision Exercise

- | | | | | |
|----------------------|---------------------|------------------|------------------|--------------------|
| 1. a. 69% | b. 73% | c. 12.5% | d. 104% | e. 60% |
| 2. a. $\frac{1}{10}$ | b. $\frac{83}{100}$ | c. $\frac{1}{5}$ | d. $\frac{3}{4}$ | e. $\frac{24}{25}$ |

3. a. 20% b. 70% c. 1% d. 25% e. 145%
4. a. 0.09 b. 0.15 c. 0.49 d. 0.71 e. 1.04
5. a. < c. < e. >
b. < d. = f. >
6. a. 2.4m b. 1.8kg c. 200ml d. ₹1
7. a. 50% b. 5% c. 20% d. 45%
8. a. 37.5% b. 70% c. 40 Marks d. 39 Seats

Mental Maths

- a. 25% b. 40
c. 500 millilitres d. 30 minutes
e. 25% f. 40%
g. 230

Skills Practice

Fraction	Decimal	Percentage
$\frac{1}{4}$	0.25	25%
$\frac{1}{2}$	0.5	50%
$\frac{4}{5}$	0.8	80%
$\frac{4}{10}$	0.4	40%
$\frac{15}{20}$	0.75	75%
$\frac{3}{20}$	0.15	15%
$\frac{55}{100}$	0.55	55%

19. Data Handling

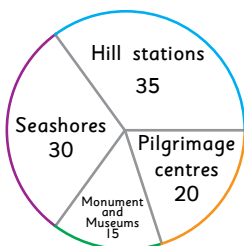
Exercise 19.1

1. a. ₹1000 b. Amount in ₹ c. Expenditure Heads
 d. ₹6000 e. ₹4000 f. ₹2000 g. Food
 h. Health Care i. ₹33000
2. a. 10 b. Name of the houses c. Point scored
 d. 80 e. 20 f. 20 g. Lotus
 h. Rose i. 5 (five) j. 300

Exercise 19.2

1. b. 75 c. 150 d. 75
2. b. 18 c. 12 d. 6

3.



Exercise 19.3

- a. Match 4 b. Match 3 c. 35 runs d. 45 runs
 e. 3 f. 2 g. 290 runs

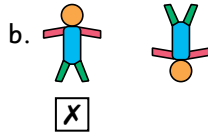
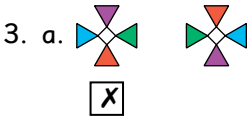
Revision Exercise

1. a. Sunday b. Thursday c. 200 people
 d. 200 people e. 3700 people
 f. Tuesday, Friday
2. a. 20 b. 10 c. 5 d. 5
 e. 10 f. 5
3. a. 15°C b. 20°C c. 25°C d. 8°C
 e. 04:00 f. 12:00

20. Patterns

Exercise 20.1

1. a. half b. quarter
2. a. half b. quarter



4.

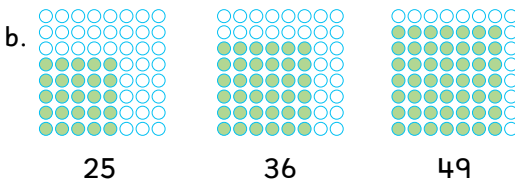
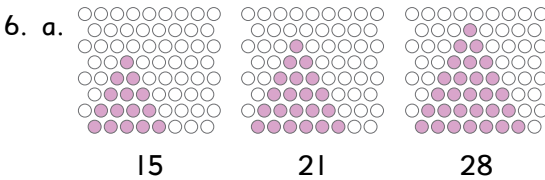
1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

1, 3, 6, 10, 15, 21, 28, 36, 45, 55, 66, 78, 91

5.

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

1, 4, 9, 16, 25, 36, 49, 64, 81, 100



Model Test Paper I

I. Indian System

- a. 21,43,965 Twenty-one lakhs forty three thousand nine hundred sixty-five
- b. 3,25,46,718 Three crore twenty five lakh forty-six thousand seven hundred eighteen
- c. 6,35,79,128 Six crore thirty-five lakh seventy-nine thousand one hundred twenty-eight
- d. 70,85,16,403 Seventy crore eighty-five lakh sixteen thousand four hundred three

International System

- a. 2,143,965 Two million one hundred forty three thousand nine hundred sixty-five
- b. 32,546,718 Thirty-two million five hundred forty six thousand seven hundred eighteen
- c. 635,79,128 Sixty-three million five hundred seventy-nine thousand one hundred twenty-eight
- d. 708,516,403 Seven hundred eight million five hundred sixteen thousand four hundred three

2. a. 36,79,652 b. 79,25,36,478
c. 85,411,679 d. 999,099,999

3. Smallest number - 11346789
Largest number - 99876431

4. 1,99,800

5. 730 700

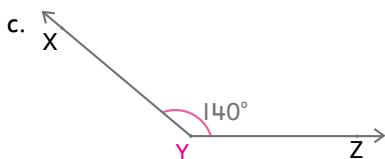
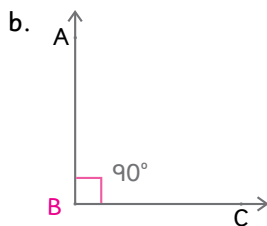
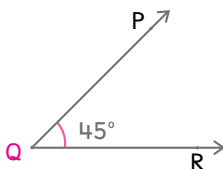
6. a. 24 b. 42 c. 199 d. 1700
7. a. XXVI b. LXXIX c. DXLIII d. MDL
8. a. 98,22,187 b. 10,51,091 c. 41,99,712 d. 1,007
9. a. 9,00,000 b. 3,00,000 c. 18,00,000 d. 12,000
10. a. = b. > c. <
11. a. $1\frac{1}{20}$ b. $4\frac{13}{18}$ c. 27 d. $\frac{9}{20}$
12. a. 23.25 b. 21.675 c. 81.305 d. 0.49
13. a. 32 b. 35 c. 25
14. a. 162 b. 1008 c. 17,712

Divisible by ...?									
Number	2	3	4	5	6	8	9	10	11
792	yes	yes	yes	no	yes	yes	yes	no	yes
1320	yes	yes	yes	yes	yes	yes	no	yes	yes
8136	yes	yes	yes	no	yes	yes	yes	no	no

16. a. 49,53,393 b. ₹38,004 c. $\frac{1}{10}l$ d. 6
 e. 1.38m, 1.4m, 1.46m, 1.49m, 1.52m f. 54.45km

Model Test Paper II

1. a. City B b. City D
 c. -6°C , -3°C , 0°C , 21°C , 42°C
2. a. -6, -5, -4, -3 b. -2, -1, 0, 1, 2
3. a. < c. > e. >
 b. < d. = f. >
4. a. 0 b. 11 c. 14 d. 23
5. a. 2.4 m b. 1.8 kg c. 200 m d. ₹1
6. a.



7. a. $AB \parallel CD$ b. $AB \perp EF$ $CD \perp EF$
 c. AB, GH CD, GH
8. a. Equilateral Triangle b. Isosceles Triangle

9. a. Right-angled triangle b. Obtuse-angled triangle

10. a. 30,000 m c. 4 dl e. 420 min
 b. 5.2347kg d. 28 days f. 3205 paise

11. a. 29.42km c. 3.217g
 b. 45kl 290l d. ₹149.45

12. a. 25cm² b. 24cm²

13. a. 12cu.cm b. 10cu.cm

14.

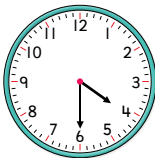


15.

Number of squares	1	2	3	4	5
Number of matchsticks	4	7	10	13	16

- Multiply the number of squares by three and add one.

16. a. 4:30am b. ₹4,175 c. 39 seats



New York

