Topline

# Grip On Mathematics

Book 3

## Teacher's Resource Manual

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# Numbers and Numerals

## Exercise: 1.1

**a. Write the following in words**

(5) 802 = Eight hundred and two

(8) 635 = Six hundred and thirty five

(12) 1007 = One thousand and seven

(16) 909 = Nine hundred and nine

(19) 3055 = Three thousand and fifty five

**b. Write the following in numbers**

(2) Six thousand = 6000

(5) Four thousand and eight = 408

(8) Nine thousand and sixty = 9060

(12) One hundred and seventy four = 174

(15) Two hundred and seventy = 270

(18) Seven hundred and twenty nine = 729

## Exercise: 1.2

**a. Write the missing numerals**

(2) 548, 549, 550, 551

(4) 507, 508, 509, 510

(7) 4823, 4824, 4825, 4826

(10) 5001, 5002, 5003, 5004

(12) 5010, 5011, 5012, 5013

## Exercise: 1.3

**a. Write (>) or (<)**

(1) 147 __<__ 174

(8) 2190 __<__ 2910

(13) 3330 __>__ 3303

(20) 179 __<__ 197

# Place Value

## Exercise: 2.1

**a. Write the standard numeral in words**

(1) 3456 = Three thousand four hundred and fifty six

(4) 5036 = Five thousand and thirty six

(7) 2075 = Two thousand and seventy five

(10) 6666 = Six thousand six hundred and sixty six

**b. Build the standard numeral**

(2) 4 in the hundreds place
8 in the ones place
0 in the tens place
5 in the thousands place
= 5408

(4) 3 in the tens place
5 in the thousands place
8 in the hundreds place
5 in the ones place
= 5835

(6) 7 in the tens place
5 in the hundreds place
2 in the ones place
4 in the thousands place
= 4572

## Exercise: 2.2

**a. Write the numbers shown by each set of cards**

(1) 50,000
2,000
700
70
1
= 52771

(3) 10,000
3,000
200
40
5
= 13245

(5) 30,000
7,000
500
50
9
= 37559

(7) 60,000
6,000
900
30
3
= 66933

**b. Write the standard numeral for:**

(1) One thousand and thirty = 1030
(5) Five thousand and two = 5002
(9) Four thousand and fifty = 4050
(13) Nine thousand nine hundred and ninety-nine = 9999

**c. Read the number then write down how many thousands, hundreds, tens and ones.**

(2) 2900 = Two thousand, nine hundred, zero ten and zero ones
(5) 6443 = Six thousand, four hundred, four tens three ones
(8) 7658 = Seven thousand, six hundred, five tens and eight ones
(10) 5129 = Five thousand, one hundred, two tens and nine ones

**d. Find the number which is 100 more than the following**

(1) 1299 = 1399
(3) 4352 = 4452
(6) 1193 = 1293
(8) 3456 = 3556
(10) 7010 = 7110

## Exercise: 2.3

**a. Give the missing digit**

(2) 6283 2 hundreds
(4) 2564 4 ones
(6) 3728 7 hundreds
(8) 5339 3 hundreds

## Exercise: 2.5

**a. Now write these as the sum of thousands, hundreds, tens and ones**

(2) 5410 = 5000 + 400 + 10 + 0
(5) 1342 = 1000 + 300 + 40 + 2
(9) 2150 = 2000 + 100 + 50 + 0
(13) 1001 = 1000 + 0 + 0 + 1

**b. Write the standard numeral from the expanded form**

(2) 4000 + 400 + 20 + 8 = 4428
(6) 9000 + 600 + 20 + 0 = 9620
(9) 8000 + 700 + 20 + 9 = 8729
(13) 7000 + 0 + 70 + 0 = 7070

# Addition

## Exercise: 3.1

**Add (horizontal method)**

(4) 6 + 8 = 14 8 + 6 = 14

(10) 5 + 6 = 11 6 + 5 = 11

(11) 5 + 9 = 14 90 + 50 = 140

(18) 23 + 29 = 52 3 + 9 = 12

## Exercise: 3.2

**Now add these (vertical method)**

(3) 7 8 + 2 1 = 9 9

(5) 4 4 + 1 3 = 5 7

(7) 3 5 + 6 3 = 9 8

(10) 3 6 + 3 2 = 6 8

## Exercise: 3.3

**Now add these:**

(5) 4 8 + 6 3 = 111

(7) 3 8 + 7 3 = 111

(14) 3 8 + 2 7 = 6 5

(26) 3 2 + 7 4 = 106

(31) 5 3 + 1 1 = 6 4

## Exercise: 3.4

**Now add these:**

(1) 207 + 223 = 430

(3) 123 + 258 = 381

(7) 625 + 235 = 860

(10) 125 + 479 = 604

## Exercise: 3.5

**Now add following**

(2) 5348 + 2645 = 7993

(11) 6263 + 1947 = 8210

(18) 2725 + 3536 = 6261

(24) 7593 + 1628 = 9221

## Exercise: 3.6

**Add the following**

(1) 29 + 74 + 63 = 166

(6) 775 + 157 + 163 = 1095

(11) 251 + 62 + 630 = 943

(16) 275 + 365 + 325 = 965

## Exercise: 3.7

**Find the Sum of:**

① (3 + 5) + 7
8 + 7 = 15

⑧ 2 + (9 + 4)
13 + 2 = 15

⑬ (5 + 6) + 7
11 + 7 = 18

⑳ 7 + (2 + 6)
8 + 7 = 15

## Exercise: 3.8

2) 65 people came to a party and 45 could not come because of rain.
How many people in all were invited to the party?

110 people in all were invited to the party.

```
  65
+ 45
 110
```

4) A farmer planted 260 tomato plants and 240 pepper plants.
How many plants did he plant in all?

500 plants did he plant in all.

```
  260
+ 240
 500
```

7) There are 25 yellow, 25 red and 25 green blocks in a box.
How many blocks are there in all?

75 blocks are there in all.

```
  25
  25
+ 25
  75
```

9) A plane flew 2,808 kilometers then 2,795 kilometers.
How much distance did it travel in all?

5603 distance did it travel in all.

```
  2808
+ 2795
 5603
```

# Subtraction

## Exercise: 4.1

**Subtract the following**

(1) 8 – 2 = 6 (11) 7 – 2 = 5 (18) 14 – 6 = 8 (30) 16 – 9 = 7

## Exercise: 4.2

**Subtract the following**

(3) 89 − 26 = 63

(9) 57 − 34 = 23

(13) 62 − 48 = 14

(23) 81 − 29 = 52

(29) 60 − 48 = 12

(32) 80 − 67 = 13

## Exercise: 4.3

**Subtract the following**

(1) 434 − 212 = 222

(3) 580 − 230 = 350

(9) 625 − 313 = 312

(12) 908 − 204 = 704

(18) 835 − 359 = 476

(27) 540 − 290 = 250

## Exercise: 4.4

**Now Subtract these**

(5) 6721 − 2000 = 4721

(12) 9850 − 5230 = 4620

(22) 5231 − 1856 = 3375

(32) 6854 − 2537 = 4317

## Exercise: 4.5

**Now Subtract these**

(6) (7 + 8) – 6
15 – 6 = 9

(11) (15 – 6) – 4
9 – 4 = 5

(17) (4 + 9) – 6
13 – 6 = 7

(28) (17 – 10) + 3
7 + 3 = 10

## Exercise: 4.6

2) There are 780 students in a school, 124 of the students wear glasses.
How many of the students do not wear glasses?

656 students do not wear glasses

$$\begin{array}{r} 780 \\ -\ 124 \\ \hline 656 \end{array}$$

6) A mountain peak is 4495 feet high and another peak is 3686 feet high.
What is the difference in heights of the two peaks?

809 difference in heights of two peaks

$$\begin{array}{r} 4495 \\ -\ 3686 \\ \hline 809 \end{array}$$

8) There were 2500 pairs of shoes in a shop. 1800 pairs of shoes were sold out in sale.
How many pairs were left?

700 pairs were left

$$\begin{array}{r} 2500 \\ -\ 1800 \\ \hline 700 \end{array}$$

# Chapter 5

# Multiplication

## Exercise: 5.1

### Multiply the following

(2) $\begin{array}{r} 8 \\ \times\ 4 \\ \hline 32 \end{array}$ (6) $\begin{array}{r} 4 \\ \times\ 9 \\ \hline 36 \end{array}$ (10) $\begin{array}{r} 9 \\ \times\ 6 \\ \hline 54 \end{array}$ (12) $\begin{array}{r} 7 \\ \times\ 5 \\ \hline 35 \end{array}$

## Exercise: 5.3

### Students do it by them selves.

## Exercise: 5.4

### Multiply the following

(7) $\begin{array}{r} 45 \\ \times\ 1 \\ \hline 45 \end{array}$ (14) $\begin{array}{r} 68 \\ \times\ 1 \\ \hline 68 \end{array}$ (31) $\begin{array}{r} 68 \\ \times\ 7 \\ \hline 476 \end{array}$ (45) $\begin{array}{r} 53 \\ \times\ 4 \\ \hline 212 \end{array}$

## Exercise: 5.5

**Now multiply these**

(10) 121 x 4 = 484

(16) 414 x 2 = 828

(26) 136 x 6 = 816

(36) 35 x 3 = 105

## Exercise: 5.6

2) A farmer planted tomato plants in 3 rows. If there are 35 plants in 1 row.
How many plants are there in all?

105 plants are there in all

$$\begin{array}{r} 35 \\ \times\ 3 \\ \hline 105 \end{array}$$

4) A worker earns 4500 rupees every week.
How much does he earn in 4 weeks?

18000 does he earn in 4 weeks

$$\begin{array}{r} 4500 \\ \times\ 4 \\ \hline 18000 \end{array}$$

7) There are 36 biscuits in a box.
How many biscuits do 8 similar boxes contain?

288 biscuits do 8 similar boxes contain

$$\begin{array}{r} 36 \\ \times\ 8 \\ \hline 288 \end{array}$$

9) For a class project every student had to collect 28 empty cans.
How many cans will be collected by 7 students?

196 cans will be collected by 7 students

$$\begin{array}{r} 28 \\ \times\ 7 \\ \hline 196 \end{array}$$

# Chapter 6

# Divisibility

## Exercise: 6.1

**Use the divisibility rules to complete this table.**

(4) 180
It is divisible by 2, 3, 4, 5, 9, 10

(12) 2540
It is divisible by 2, 3, 4, 5, 9, 10

(8) 5790
It is divisible by 2, 3, 4, 5, 9, 10

(16) 13590
It is divisible by 2, 3, 4, 5, 6, 9, 10

## Exercise: 6.2

**Use the divisibility rules to find the first two divisors.**

(2) $3\overline{)36}\,12$ ; $-3\downarrow$ ; $06$ ; $6$ ; $00$

$2\overline{)36}\,18$ ; $-2\downarrow$ ; $16$ ; $-16$ ; $00$

(7) $2\overline{)76}\,38$ ; $-6\downarrow$ ; $16$ ; $-16$ ; $00$

$4\overline{)76}\,19$ ; $-4\downarrow$ ; $36$ ; $-36$ ; $00$

(12) $2\overline{)88}\,44$ ; $-8\downarrow$ ; $08$ ; $-8$ ; $00$

$4\overline{)88}\,22$ ; $-8\downarrow$ ; $08$ ; $-8$ ; $00$

(14) $3\overline{)27}\,9$ ; $-27$ ; $00$

$9\overline{)27}\,3$ ; $-27$ ; $00$

# Chapter 7

# Division

## Exercise: 7.1

**a) Divide the following**

(3) $1\overline{)7}\,7$ ; $-7$ ; $0$

$7\overline{)7}\,1$ ; $-7$ ; $0$

(12) $4\overline{)84}\,21$ ; $-8\downarrow$ ; $04$ ; $-4$ ; $00$

(16) $2\overline{)114}\,57$ ; $-10\downarrow$ ; $14$ ; $-14$ ; $00$

**b) Divide and find remainders and quotients**

(2) $6\overline{)36}\,6$ ; $-36$ ; $0$

(4) $4\overline{)22}\,5.5$ ; $-20$ ; $020$ ; $20$ ; $00$

(6) $9\overline{)84}\,9.3$ ; $-81$ ; $30$ ; $27$ ; $03$

## Exercise: 7.2

**a) Divide the following 2-digit numbers. Also cross-check your answers.**

(2) $3\overline{)34}\,11.3$ ; $-3\downarrow$ ; $04$ ; $-3$ ; $10$ ; $-9$ ; $10$ ; $9$

(7) $3\overline{)93}\,31$ ; $-9\downarrow$ ; $03$ ; $-3$ ; $0$

(10) $9\overline{)83}\,9$ ; $-81$ ; $02$

(15) $4\overline{)72}\,18$ ; $-4\downarrow$ ; $32$ ; $-32$ ; $00$

**b) Divide the following 3-digit numbers. Also cross-check your answers.**

(2) $3\overline{)552}\,184$
$-3\downarrow$
$25$
$-24\downarrow$
$012$
$-12$
$00$

(8) $5\overline{)417}\,83.4$
$-40\downarrow$
$17$
$-15$
$20$
$-20$
$00$

(10) $2\overline{)167}\,83.5$
$-16\downarrow$
$7$
$-6$
$10$
$10$
$xx$

(16) $6\overline{)289}\,48.1$
$-24\downarrow$
$49$
$-48$
$10$
$-6$
$4$

## Exercise: 7.3

2) Omar bought an eraser for 2 rupees.
How many erasers can he buy for 26 rupees?

$2\overline{)26}\,13$
$-2\downarrow$
$06$
$-6$
$0$

13 erasers can be buy for 26 rupees

4) A farmer planted 440 plants. If he plants 8 plants in 1 row,
How many rows would be formed?

$8\overline{)440}\,55$
$-40\downarrow$
$40$
$-40$
$00$

55 rows would be formed

6) There are 3 feet in 1 yard.
How many yards are there in 78 feet?

$3\overline{)78}\,26$
$-6\downarrow$
$18$
$-18$
$00$

26 yards are there in 78 feet

8) A driver covers 5 kilometers in 1 hour.
How much time will he take to cover 250 kilometers?

$5\overline{)250}\,50$
$-25\downarrow$
$000$

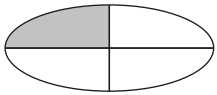
50 hours will be take to cover 250 kilometers

# Fractions

## Exercise: 8.1

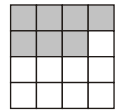
**(a) Consider the figures given below**

(3)



$\frac{1}{4}$ of the figures is shaded

(5)



$\frac{7}{16}$ of the figure is shaded

**(b) Show these fractions on the diagram**

Students do it by theme selves

## Exercise: 8.2

**(a) Find the numerator and the denominator in the following fractions.**

| | Fraction | Numerator | Denominator |
|---|---|---|---|
| (2) | $\frac{3}{8}$ | 3 | 8 |
| (4) | $\frac{1}{6}$ | 1 | 6 |

**(b) Form fraction using the numerator and denominator**

(2) $\frac{2}{9}$ (4) $\frac{9}{25}$

## Exercise: 8.3

**(a) Give the equivalent fractions for the following**

(3) $\frac{2}{8}$ (7) $\frac{12}{32}$ (11) $\frac{8}{12}$ (15) $\frac{9}{30}$

**(b) Write the numerator to form the equivalent fraction**

(3) $\frac{10}{16}$ (7) $\frac{4}{24}$ (15) $\frac{4}{40}$ (19) $\frac{14}{35}$

**(c) Now use the symbols '>', '<', or '='**

(5) $\frac{1}{2} \boxed{=} \frac{2}{4}$ (10) $\frac{2}{10} \boxed{<} \frac{4}{5}$ (14) $\frac{1}{6} \boxed{<} \frac{1}{5}$ (24) $\frac{7}{12} \boxed{<} \frac{4}{5}$

## Exercise: 8.4

**(a) Now write these fractions in lowest terms**

(3) $\frac{2}{4}$ (9) $\frac{2}{3}$ (15) $\frac{1}{3}$ (20) $\frac{1}{4}$

**(b) See the figures and give the fraction in lowest terms**

(2) $\frac{2}{3}$ (5) $\frac{1}{2}$ (8) $\frac{1}{3}$

## Exercise: 8.5

**Now see these fractions and write whether they are proper or improper fractions.**

(2) improper fraction (5) improper fraction (9) Proper fraction

(11) improper fraction (13) improper fraction (15) Proper fraction

## Exercise: 8.6

**(a) Now write these fractions in lowest terms**

(7) $\frac{1}{\cancel{8}_{1}} \times \cancel{24}^{3} = 3$ (13) $\frac{7}{\cancel{5}_{1}} \times \cancel{15}^{3} = 21$

(23) $\frac{9}{\cancel{4}_{1}} \times \cancel{12}^{3} = 27$ (29) $\frac{1}{\cancel{10}_{1}} \times \cancel{50}^{5} = 5$

## Exercise: 8.7

(2) Ali has to sell 10 tickets for a school fair. He could sell 7 of them.
What fraction of tickets has he sold?

$\frac{7}{10}$ tickets has he sold

(4) Sana is reading a storybook which has 15 pages. She has read 8 pages until now.
What fraction of pages has she read?

$\frac{8}{15}$ of pages has she read

(5) Ahmed bought 24 sweets out of which 10 are mint and the remaining 14 are milk toffees.
What fraction of sweets are mint?

$\frac{10}{24}$

(6) In the above problem what fraction of sweets are milk toffees?

$\frac{14}{24}$

(8) In a shop there are 12 bottles of orange juice, 7 bottles of mango juice and 5 bottles of lemonade.
What fraction of the total bottles in the shop are the mango juice bottles?

$\frac{12}{12}$ of the total bottles in the shop are the mango juice bottles

# More About Fractions

## Exercise: 9.1

**(a) Change the following into mixed number**

(4) $\frac{12}{7} = \frac{7}{7} + \frac{5}{7}$

$= 1 + \frac{5}{7}$

$= 1\frac{5}{7}$

(7) $\frac{5}{4} = \frac{4}{4} + \frac{1}{4}$

$= 1 + \frac{1}{4}$

$= 1\frac{1}{4}$

(9) $\frac{13}{10} = \frac{10}{10} + \frac{3}{10}$

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

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

(12) $\frac{17}{9} = \frac{9}{9} + \frac{8}{9}$

$= 1 + \frac{8}{9}$

$= 1\frac{8}{9}$

**(b) Change the following into improper fraction**

(2) $1\frac{1}{12} = 1 + \frac{1}{12}$

$= \frac{12}{12} + \frac{1}{12}$

$= \frac{13}{12}$

(4) $2\frac{1}{4} = 2 + \frac{1}{4}$

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

$= \frac{9}{4}$

(6) $1\frac{4}{7} = 1 + \frac{4}{7}$

$= \frac{7}{7} + \frac{4}{7}$

$= \frac{11}{7}$

(8) $1\frac{3}{10} = 1 + \frac{3}{10}$

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

$= \frac{13}{10}$

## Exercise: 9.2

**(a) Add the like-fractions using figures**

(2) $\frac{3}{10}$ (4) $\frac{3}{8}$ (6) $\frac{4}{5}$

**(b) Add these like-fractions and if required write the sum in lowest terms**

(3) $\frac{1}{10} + \frac{6}{10}$

$= \frac{7}{10}$

(9) $\frac{3}{12} + \frac{6}{10}$

$= \frac{7}{10}$

(12) $\frac{1}{11} + \frac{3}{11}$

$= \frac{4}{11}$

(19) $\frac{2}{11} + \frac{5}{11}$

$= \frac{7}{11}$

## Exercise: 9.3

**Now subtract the following like-fractions and write in lowest terms**

(2) $\frac{7}{8} - \frac{4}{8}$

$= \frac{3}{8}$

(9) $\frac{5}{6} - \frac{4}{6}$

$= \frac{1}{6}$

(17) $\frac{5}{6} - \frac{3}{10}$

$= \frac{\cancel{2}^{1}}{\cancel{10}_{5}} = \frac{1}{5}$

(25) $\frac{5}{8} - \frac{1}{8}$

$= \frac{\cancel{4}^{1}}{\cancel{8}_{2}} = \frac{1}{2}$

## Exercise: 9.4

**Now add these unlike-fractions. Also write the sum in lowest terms.**

(4) $\frac{1}{9} + \frac{2}{3}$

$\left(\frac{1}{9} = \frac{2}{3}\right)$

$\frac{1}{9} + \frac{6}{9}$

$= \frac{7}{9}$

(7) $\frac{1}{3} + \frac{4}{9}$

$\left(\frac{1}{3} = \frac{4}{9}\right)$

$\frac{3}{9} + \frac{4}{9}$

$= \frac{7}{9}$

(14) $\frac{1}{8} + \frac{5}{16}$

$\left(\frac{1}{8} = \frac{5}{16}\right)$

$\frac{8}{16} + \frac{5}{16}$

$= \frac{13}{16}$

(17) $\frac{9}{16} + \frac{3}{8}$

$\left(\frac{9}{16} = \frac{3}{8}\right)$

$\frac{9}{16} + \frac{6}{16}$

$= \frac{15}{16}$

## Exercise: 9.5

**a) Now subtract the following unlike-fractions:**

(3) $\frac{2}{3} - \frac{1}{12}$

$= \left(\frac{2}{3} \times \frac{4}{4}\right) - \frac{2}{12}$

$= \frac{8}{12} - \frac{8}{12} = \frac{2}{12}$

(5) $\frac{5}{6} - \frac{2}{3}$

$= \left(\frac{5}{6} \times \frac{2}{2}\right) - \frac{5}{18}$

$= \frac{10}{18} - \frac{10}{18} = \frac{5}{18}$

(8) $\frac{1}{4} - \frac{1}{8}$

$= \left(\frac{1}{4} \times \frac{2}{2}\right) - \frac{1}{8}$

$= \frac{2}{8} - \frac{2}{8} = \frac{1}{8}$

(10) $\frac{5}{9} - \frac{1}{3}$

$= \left(\frac{5}{6} \times \frac{3}{3}\right) - \frac{1}{27}$

$= \frac{15}{27} - \frac{15}{27} = \frac{1}{27}$

**b) Now subtract the following fractions**

(3) $\frac{3}{8}^{\times 3} - \frac{16}{6}^{\times 4}$

$= \frac{2 - 4}{24}$

$= \frac{5}{24}$

| | |
|---|---|
| 2 | 8, 6 |
| 2 | 4, 3 |
| 2 | 2, 3 |
| 3 | 1, 3 |
| 24 | 1, 1 |

(5) $\frac{1}{6}^{\times 3} - \frac{1}{9}^{\times 2}$

$= \frac{3 - 2}{18}$

$= \frac{1}{18}$

| | |
|---|---|
| 2 | 6, 9 |
| 3 | 3, 9 |
| 3 | 1, 3 |
| 18 | 1, 1 |

(7) $\frac{7}{8}^{\times 3} - \frac{1}{3}^{\times 8}$

$= \frac{21 - 8}{24}$

$= \frac{13}{24}$

| | |
|---|---|
| 2 | 8, 3 |
| 2 | 4, 3 |
| 2 | 2, 3 |
| 3 | 1, 3 |
| 24 | 1 |

## Exercise: 9.6

**a) Now add the following mixed numbers**

(2) $1\frac{1}{5} + 2\frac{3}{5}$

$= 1 + \frac{1}{5} + 2 + \frac{3}{5}$

$= 2 + \frac{1}{5} + \frac{3}{5}$

$= 2 + \frac{4}{5}$

$= 2\frac{4}{5}$

(4) $3\frac{1}{2} + 3\frac{1}{10}$

$= 3 + \frac{1}{2} + 3 + \frac{1}{10}$

$= 6 + \frac{1}{2} + \frac{1}{10}$

$= 6 + \frac{5}{10} + \frac{1}{10}$

$= 6 + \frac{6}{10}$

$= 6\frac{6}{10}$

(6) $1\frac{1}{4} + 2\frac{1}{2}$

$= 1 + \frac{1}{4} + 2 + \frac{1}{2}$

$= 3 + \frac{1}{4} + \frac{1}{2}$

$= 3 + \frac{1}{4} + \frac{2}{4}$

$= 3 + \frac{3}{4}$

$= 3\frac{3}{4}$

(8) $3\frac{1}{2} + 2\frac{1}{6}$

$= 3 + \frac{1}{2} + 2 + \frac{1}{6}$

$= 5 + \frac{1}{2} + \frac{1}{6}$

$= 5 + \frac{3}{6} + \frac{1}{6}$

$= 5 + \frac{4}{6}$

$= 5\frac{4}{6}$

**b) Now subtract the following mixed numbers**

(2) $1\frac{2}{3} - 1\frac{1}{6}$

$= \left(1 + \frac{2}{3}\right) - \left(1 + \frac{1}{6}\right)$

$= 1 + \frac{2}{3} - 1 - \frac{1}{6}$

$= 1 - 1 + \frac{2}{3} - \frac{1}{6}$

$= 0 + \frac{4}{6} - \frac{1}{6}$

$= \frac{3}{6}$

(4) $1\frac{5}{8} - 1\frac{1}{2}$

$= \left(1 + \frac{5}{8}\right) - \left(1 + \frac{1}{2}\right)$

$= 1 + \frac{5}{8} - 1 - \frac{1}{2}$

$= 1 - 1 + \frac{5}{8} + \frac{1}{2}$

$= 0 + \frac{5}{8} - \frac{4}{8}$

$= \frac{1}{8}$

(6) $4\frac{2}{8} - 2\frac{1}{4}$

$= \left(4 + \frac{2}{8}\right) - \left(2 + \frac{1}{4}\right)$

$= 4 + \frac{2}{3} - 2 - \frac{1}{4}$

$= 4 - 2 + \frac{2}{8} - \frac{1}{4}$

$= 2 + \frac{2}{8} - \frac{2}{8}$

$= \frac{0}{8}$

## Exercise: 9.7

**Solve these problems in the provided empty space and write the answers**

(2) $\frac{1}{4} + \frac{3}{8}$

$\left(\frac{1}{4} = \frac{3}{8}\right)$

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

$= \frac{5}{8}$

$\frac{5}{8}$ of the book has she read in all

(4) $\frac{3}{4}$

$= \frac{2}{4} + \frac{1}{4}$

$= 2 + \frac{1}{4}$

$= 2\frac{1}{4}$

$2\frac{1}{4}$ to a weight of $\frac{3}{4}$ kg to balance a weight of 1 kg

---

(6) $6\frac{1}{2} - 4\frac{3}{8}$

$\left(6 + \frac{3}{8}\right) - \left(4 + \frac{1}{4}\right)$

$= 6 + \frac{1}{2} - 4 + \frac{1}{4}$

$= 6 - 4 + \frac{1}{2} + \frac{1}{4}$

$= 6 - 4 + \frac{1}{2} + \frac{1}{4}$

$= 2 + \frac{2}{4} + \frac{1}{4}$

$= \frac{3}{4}$

$\frac{3}{4}$ of a dozen eggs are left

(8) $5\frac{1}{4} - 6\frac{3}{8}$

$= \left(5 + \frac{1}{4}\right) - \left(6 + \frac{3}{8}\right)$

$= 5 + \frac{1}{4} - 6 - \frac{3}{8}$

$= 5 - 6 + \frac{1}{4} - \frac{3}{8}$

$= 1 + \frac{2}{8} - \frac{3}{8}$

$= \frac{1}{8}$

$\frac{1}{8}$ did he sell on the second day than the first day

## Chapter 10

# About Time

## Exercise: 10.1

**a) Convert hours into minutes**

(3) 12 minutes past 2

(7) 50 minutes past 11

(10) 10 minutes past 7

(12) Half past 3

## Exercise: 10.2

**a) Convert hours into minutes**

(3) 1 hour and 45 minutes = 60 minutes + 45 minutes = 105 minutes

(5) 3 hour and 10 minutes = 180 minutes + 10 minutes = 190 minutes

(7) 4 hour and 55 minutes = 240 minutes + 55 minutes = 295 minutes

(9) 3 hour and 25 minutes = 180 minutes + 25 minutes = 205 minutes

**b) Changes these minutes to hours**

(3) 110 minutes = 60 minutes + 50 minutes = 1 hour 50 minutes

(5) 120 minutes = 60 minutes + 60 minutes = 1 hour 60 minutes

(7) 135 minutes = 60 minutes + 75 minutes = 1 hour 75 minutes

(9) 180 minutes = 60 minutes + 120 minutes = 1 hours 120 minutes

**c) Look at the clocks and tell how many minutes has the minute hand taken**

(3)

(5)

(7)

## Exercise: 10.3

**Now add these hours and minutes**

(2)

| hrs | min |
|---|---|
| 1 | 40 |
| 1 | 50 |
| 3 | 30 |

(4)

| hrs | min |
|---|---|
| 1 | 40 |
| 1 | 20 |
| 3 | 00 |

(6)

| hrs | min |
|---|---|
| 3 | 35 |
| 2 | 10 |
| 5 | 45 |

(8)

| hrs | min |
|---|---|
| 3 | 60 |
| 0 | 45 |
| 4 | 45 |

## Exercise: 10.4

**Now add these hours and minutes**

(4)

| hrs | min |
|---|---|
| 8 | 15 |
| 4 | 20 |
| 4 | 5 |

(6)

| hrs | min |
|---|---|
| 10 | 20 |
| 7 | 50 |
| 3 | 30 |

(8)

| hrs | min |
|---|---|
| 5 | 05 |
| 4 | 25 |
| 1 | 20 |

## Exercise: 10.5

**a) Write the time using A.M. or P.M.**

(2) 5 minutes past 4 in the late night 4:05 A.M.
(4) 10 minutes past 8 in the morning 8:10 A.M.
(6) 11 O'clock at night 11:00 P.M.
(8) 6 O'clock in the evening 6:00 P.M.

**b) At what time do you:**

(2) At 6:50 P.M.
(4) At 1:30 P.M.
(6) At 5:00 P.M.
(8) At 7:00 P.M.

# Chapter 11

# Our Calendar

## Exercise: 11.1

**a) Now convert the following weeks into days**

(2) 3 weeks = 7 x 3 = 21 days
(4) 3 weeks, 2 days = (7 x 3) + 2 = 21 + 2 = 23 days
(6) 4 weeks, 1 days = (4 x 7) + 1 = 28 + 1 = 29 days
(8) 1 week, 5 days = 7 + 5 = 12 days

**b) Convert the days into weeks**

(1) 28 days = $\frac{\overset{4}{\cancel{28}}}{\underset{1}{\cancel{7}}}$ = 4 weeks

(3) 42 days = $\frac{\overset{6}{\cancel{42}}}{\underset{1}{\cancel{7}}}$ = 6 weeks

(5) 33 days = $\frac{28}{7}$ = 4 weeks + 5 days

= 4 weeks, 5 days

(7) 17 days = $\frac{14}{7}$ = 2 weeks, 3 days

## Exercise: 11.2

**a) Add the following**

| | weeks | days |
|---|---|---|
| (2) | 2 | 5 |
| + | 3 | 2 |
| | 6 | 0 |

| | weeks | days |
|---|---|---|
| (4) | 4 | 3 |
| + | 3 | 6 |
| | 8 | 2 |

| | weeks | days |
|---|---|---|
| (6) | 6 | 1 |
| + | 2 | 6 |
| | 9 | 0 |

| | weeks | days |
|---|---|---|
| (8) | 2 | 3 |
| + | 5 | 2 |
| | 7 | 5 |

**b) Now subtract these weeks and days**

| | weeks | days |
|---|---|---|
| (3) | 4 | 2 |
| − | 3 | 1 |
| | 1 | 1 |

| | weeks | days |
|---|---|---|
| (5) | 5 | 6 |
| − | 5 | 0 |
| | 0 | 6 |

| | weeks | days |
|---|---|---|
| (7) | 6 | 5 |
| − | 5 | 6 |
| | 0 | 6 |

| | weeks | days |
|---|---|---|
| (9) | 8 | 5 |
| − | 5 | 6 |
| | 2 | 6 |

## Exercise: 11.3

**a) Now convert the years to months**

(2) 4 years = 4 x 12 = 48 months

(4) 3 years 3 months = 3 x 12 = 36 + 3 = 39 months

(6) 2 years 4 months = 2 x 12 = 24 + 4 = 28 months

(8) 1 year 7 months = 12 + 7 = 19 months

**b) Now change these months to years**

(2) 30 months = $\frac{24}{12}$ + 6 = 2 years and 6 months

(5) 36 months = $\frac{36}{12}$ = 3 years

(7) 13 months = $\frac{12}{12}$ + 1 = 1 year and 1 month

(9) 42 months = $\frac{36}{12}$ + 6 = 3 years and 6 months

# Measurement of Length

## Exercise: 12.2

**(a) Now change the centimeters into meters**

(4) 610 cm
=> 6 m 10 cm

(9) 502 cm
=> 5 m 2 cm

(12) 940 cm
=> 9 m 40 cm

(17) 109 cm
=> 1 m 09 cm

**(b) Change the following meters into centimeters**

(4) 1 m 30 cm
=> 130 cm

(8) 8 m 25 cm
=> 825 cm

(12) 1 m 35 cm
=> 135 cm

(16) 2 m 10 cm
=> 210 cm

**(c) Measure the following in meters and centimeters**

Students do it by themselves.

**(d) Tell which unit you would use to measure these (meters or centimeters)**

Students do it by themselves.

## Exercise: 12.3

**Now add the following lengths**

(2)
| | m | cm |
|---|---|---|
| | 3 | 5 |
| + | 2 | 3 |
| | 5 | 8 |

(4)
| | m | cm |
|---|---|---|
| | 4 | 50 |
| + | 5 | 50 |
| | 10 | 00 |

(6)
| | m | cm |
|---|---|---|
| | 2 | 70 |
| + | 5 | 80 |
| | 8 | 50 |

(8)
| | m | cm |
|---|---|---|
| | 6 | 90 |
| + | 2 | 75 |
| | 9 | 65 |

## Exercise: 12.4

**Now subtract the following lengths**

(1)
| | m | cm |
|---|---|---|
| | 6 | 75 |
| − | 4 | 25 |
| | 2 | 50 |

(3)
| | m | cm |
|---|---|---|
| | 9 | 70 |
| − | 4 | 30 |
| | 5 | 40 |

(5)
| | m | cm |
|---|---|---|
| | 7 | 25 |
| − | 5 | 75 |
| | 1 | 50 |

(9)
| | m | cm |
|---|---|---|
| | 9 | 05 |
| − | 7 | 15 |
| | 1 | 90 |

## Exercise: 12.5 Word Problems

2. Ali's height is 290 cm. Give his height in meters.

Ali's height is 290 cm

For converting cm into m, divide the number by 100

$$\frac{290}{100} = 2.9 \text{ m or } 2 \text{ m } 90 \text{ cm}$$

200 cm + 90 cm
2 m + 90 cm
90 cm

4. Sana has 1 m and 80 cm of red cloth and 2 m and 40 cm of white cloth. How much total clothes does she have?

Sana has 1 m and 80 cm of red cloth and 2 m and 40 cm of white cloth.

| | m | cm |
|---|---|---|
| | 1 | 80 |
| + | 2 | 40 |
| | 4 | 20 |

She have 4m 20cm of total cloths

7. The top of a roof is 5 m high. A ladder laid against it is shorter by 75 cm. What is the height of the ladder?

The top of a roof is 5 m high A ladder against it is shorter by 75 cm

| | m | cm |
|---|---|---|
| | 5 | 00 |
| − | 0 | 75 |
| | 4 | 25 |

The height of ladder is 4 m 25 cm

9. Which length is greater 9 m 90 cm or 990 cm?

Which length is greater

9 m 90 cm or 990 cm
first convert 9 m 90 cm into cm

i.e. 9m = 900 cm + 90 cm
990 cm

So, both are equal
9m 90cm = 990 cm

## Chapter 13

# Measurement

## Exercise: 13.1

**Students do it by themselves**

## Exercise: 13.2

**a) Change into kilograms**

(2) 6005 g

6000 g + 5 g = 6 kg, 5 g

(4) 4832 g

4000 g + 832 g = 4 kg, 832 g

(8) 4500 g

4000 g + 500 g = 4 kg, 500 g

(10) 8400 g

8000 g + 400 g = 8 kg, 400 g

**b) Change into grams**

(2) 9 kg 90 g

9000 g + 90 g = 9090 g

(5) 7 kg 250 g

7000 g + 250 g = 7250 g

(7) 3 kg 250 g

3000 g + 250 g = 3250 g

(9) 8 kg 400 g

8000 g + 400 g = 8400 g

## Exercise: 13.3

**Add the following weights**

(2)

| | kg | g |
|---|---|---|
| | 4 | 200 |
| + | 2 | 600 |
| | 6 | 800 |

6 kg 800 g

(5)

| | kg | g |
|---|---|---|
| | 6 | 150 |
| + | 3 | 275 |
| | 9 | 425 |

9 kg 425 g

(8)

| | kg | g |
|---|---|---|
| | 4 | 500 |
| + | 3 | 500 |
| | 8 | 000 |

8 kg 0 g

(11)

| | kg | g |
|---|---|---|
| | 6 | 180 |
| + | 4 | 320 |
| | 10 | 500 |

10 kg 500 g

## Exercise: 13.4

**Subtract the following weights**

(3)

| | kg | g |
|---|---|---|
| | 7 | 900 |
| − | 3 | 400 |
| | 4 | 500 |

4 kg 500 g

(6)

| | kg | g |
|---|---|---|
| | 5 | 300 |
| − | 2 | 105 |
| | 3 | 195 |

3 kg 195 g

(9)

| | kg | g |
|---|---|---|
| | 7 | 175 |
| − | 5 | 400 |
| | 1 | 775 |

1 kg 775 g

(12)

| | kg | g |
|---|---|---|
| | 7 | 105 |
| − | 1 | 300 |
| | 5 | 805 |

5 kg 805 g

## Exercise: 13.5 Word Problems

3. Ebad bought meat of 2 kg and 5 kg 600 g of vegetables.
What is the total weight of his shopping?

Ebad bought meat of 2 Kg and 5 kg 600 g of vegetables.

| | kg | g |
|---|---|---|
| | 2 | 000 |
| + | 5 | 600 |
| | 7 | 600 |

Total weight of his shopping is 7 kg 600 g

5. A fisherman caught fish weighing 9 kg 200 g.
Another fisherman caught fish weighing 5 kg 450 g.
What is the difference in weights of the two?

A fisherman caught fish weighing 9 kg 200 g.
Another fisherman caught fish weighing 5 kg 450 g.

| | kg | g |
|---|---|---|
| | 9 | 200 |
| − | 5 | 450 |
| | 3 | 750 |

The difference between weights of two is 3 kg 750 g

7. A tin of cherries weighs 5 kg 200 g and a tin of strawberries weighs 6 kg. What is the difference in weights of the two tins?

A tin of cherries weighs 5 kg 200 g and a tin of strawberries weighs 6 kg.

| | kg | g |
|---|---|---|
| | 6 | 000 |
| − | 5 | 200 |
| | 0 | 800 |

0 kg 800 g is the difference

9. How much weight should be added to 350 g to balance a weight of 1 kilogram? (You know that 1 kg = 1000 g)

To balance a weight of 1 kg. The weigh added to 350 g will be

| | kg | g |
|---|---|---|
| | 1 | 000 |
| − | 0 | 350 |
| | 0 | 650 |

650 g should be added to 350 g to make it 1 kg.

## Exercise: 13.6

**b) Write down which one is greater**

1) $\frac{1}{4}$ litre o r $\frac{1}{2}$ litre?

$\frac{1}{4}$ litre = 250 ml

$\frac{1}{2}$ litre = 500 ml

So, $\frac{1}{2}$ litre is greater

3) $\frac{1}{4}$ litre o r $\frac{3}{4}$ litre?

$\frac{1}{4}$ litre = 250 ml

$\frac{3}{4}$ litre = 750 ml

So, $\frac{3}{4}$ litre is greater

# Chapter 14

# Geometry

## Exercise: 14.1

**a) Mention the straight and curved line**

(1) Curve (2) Straight (3) Curve (4) Straight

(5) Straight (6) Curve (7) Straight (8) Curve

**b) Now write yes or no to tell if these things have straight edges**

(1) No (2) Yes (3) Yes (4) Yes (5) No

## Exercise: 14.2

**Which of the following are right angles.**

(1) This is not a right angle.

(2) This is a right angle.

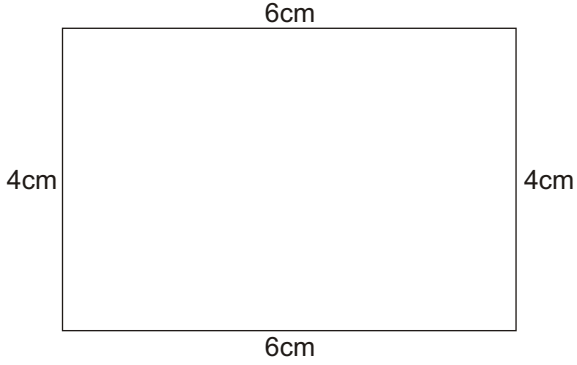
(3) This is not a right angle.

(4) This is not a right angle.

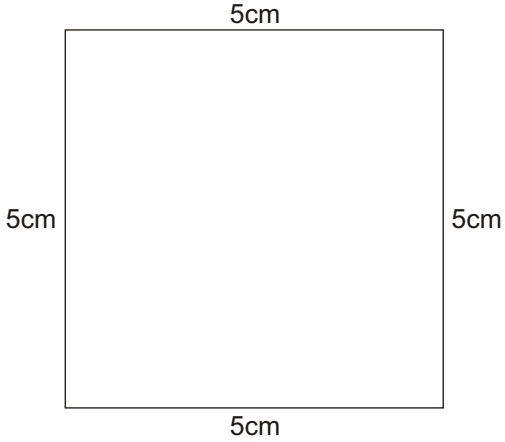
## Exercise: 14.3

**a) Now draw the following:**

(2) A rectangle with 6 cm and 4 cm sides




(4) A square with all sides measuring 5 cm




**b) Fill in the blanks:**

(1) 2 (2) 4 (3) 2 (4) 2 (5) quadrilateral (6) quadrilateral

## Exercise: 14.4

**Now tell which of the following figures are symmetrical about dotted line**

(1) The triangle is symmetrical about this line.

(2) The triangle is symmetrical about this line.

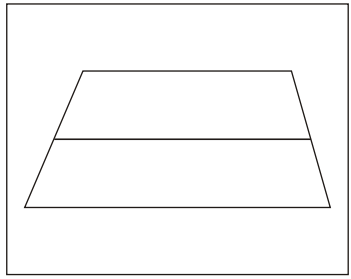
(3) The triangle is not symmetrical about this line.

(4) The triangle is not symmetrical about this line.

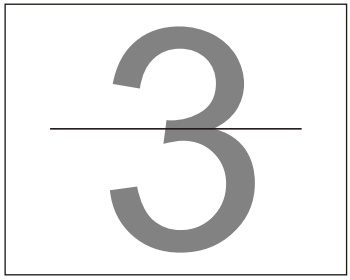
**Draw the lines of symmetry for the following figures.**

(2)

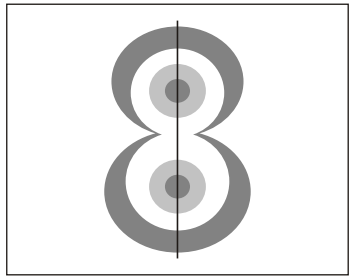
(4)



(6)




(8)



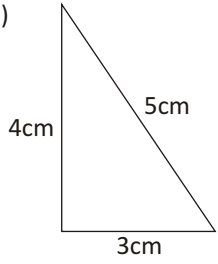

## Chapter 15

# Perimeter and Area

## Exercise: 15.2

**Now you can find the perimeter of these figures (just by adding their sides)**

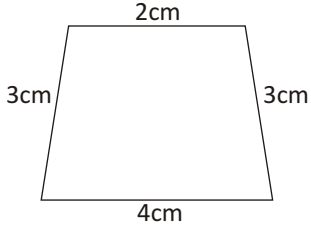
(1)




(5cm + 4cm + 3cm) = 12cm

(The perimeter of this shape is 12cm)

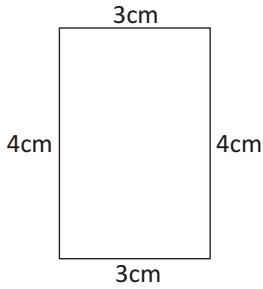
(3)




(4cm + 3cm + 3cm +2cm) = 12cm

(The perimeter of this shape is 12cm)

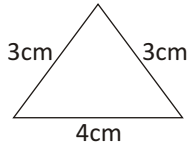
(5)




(4cm + 4cm + 3cm +3cm) = 14cm

(The perimeter of this shape is 14cm)

(8)

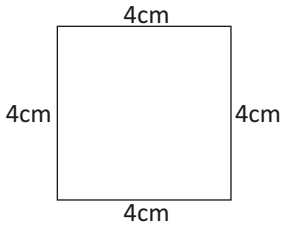



(4cm + 3cm +3cm) = 10cm

(The perimeter of this shape is 10cm)

**Now finding the Area?**

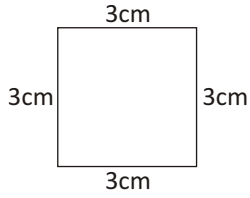
(2)




Area = length x width

Area = 4 x 4 = 16cm

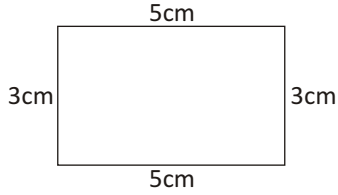
(4)




Area = length x width

Area = 3 x 3 = 9cm

(5)



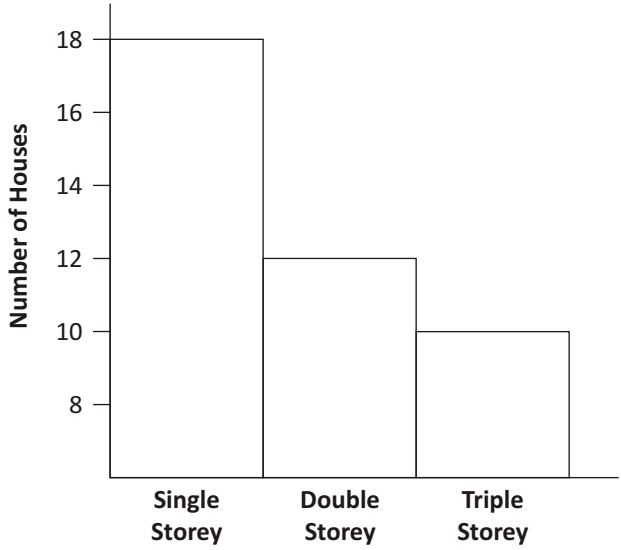

Area = length x width

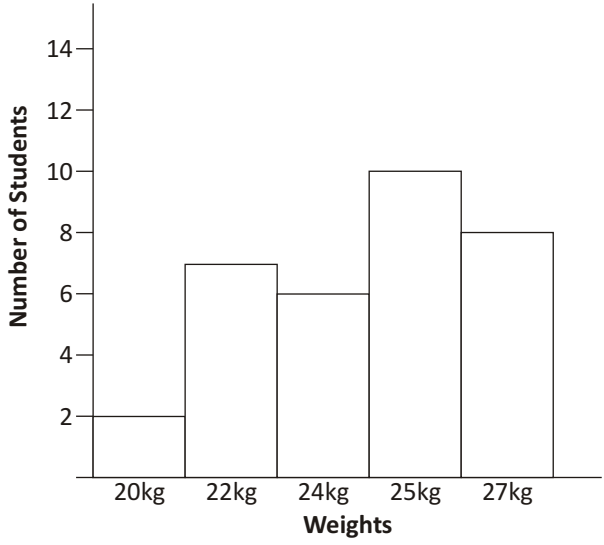
Area = 5 x 3 = 15cm

# Information Handling

## Exercise: 16.1

In a certain town, Number of houses
Single storey = 18, Double storey = 12, Triple Storey = 10




1) 4 students 2) 6 students 3) 25 kg
4) 7 students 5) 22 kg = 7, 27 kg = 8