CHRIST KING HR. SEC. SCHOOL, KOHIMA
CLASS- 5
SUBJECT: MATHS, SECOND TERM

Syllabus for 2nd Term.

4. Factors (10 marks)

7. Decimal (12 marks)

8. More About Decimals (10 marks)

11. Measurement (14 marks)

12. Perimeter, Area and Volume (14 marks)

4. Factors

Exercise 4.1

1. Find the factors of the following:

a) 10

1×10= 10

2×5=10

5×2=10

10×1=10

Factors of 10 are

1, 2, 5, 10

c) 30

1×30=30

2×15=30

3×10=30

5×6=30

6×5=30

10×3=30

15×2=30

30×1=30

Factors of 30 are

1, 2, 3, 5, 6, 10, 15, 30

2. Use question 1 to find the common factors of the following:

a) 10, 16

Factors of 10= 1, 2, 5, 10

Factors of 16= 1, 2, 4, 8, 16

Common factors of 10, 16= 1, 2

c) 16, 30

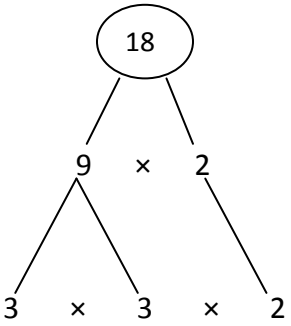
Factors of 16= 1, 2, 4, 8, 16

Factors of 30= 1, 2, 3, 5, 6, 10, 15, 30

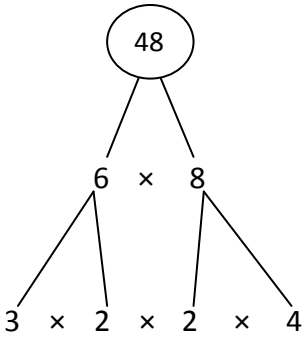
Common factors of 16, 30= 1, 2

3. Make factor trees for the following.

a) 18



c) 48



Exercise 4.2

1. Circle the number.

a) Divisible by 2: 11 (24) (38) 49 (160)

2. Circle the numbers.

b) Divisible b 9: (36) (45) 56 118 919

3. Circle the numbers:

b) Divisible by 6: (42) 32 (120) 28 200

4. Complete the table. One has been done for you.

Divisible by

Number	2	3	4	5	6	9	10
12	✓	✓	✓	×	✓	×	×
79	×	×	×	×	×	×	×
98	✓	×	×	×	×	×	×
65	×	×	×	✓	×	×	×
60	✓	✓	✓	✓	✓	×	✓
120	✓	✓	✓	✓	✓	×	✓
313	×	×	×	×	×	×	×
504	✓	✓	✓	×	✓	✓	×

600	✓	✓	✓	✓	✓	×	✓

Exercise 4.3

1. Use prime factorization to find the prime factors of these composite numbers.

a) 51

51= 3×17

Ans: The prime factorization of

51= 3×17

c) 90

90= 3×30

= 3×3×10

= 3×3×2×5

Ans: The prime factorization of 90=3×3×2×5

e) 24

24= 2×12

=2×2×6

=2×2×2×3

Ans: The prime factorization of

24=2×2×2×3

g) 81

81= 3×27

= 3×3×9

= 3×3×3×3

Ans: The prime factorization of 81=3×3×3×3

Exercise 4.4

1. Find the common factors of these numbers. Then find their HCF.

Number	Factors	Common factors	Highest common factors
a) 9 15	3, 3 3, 5	3	3
b) 8 16	2, 2, 2 2, 2, 2, 2	2, 2, 2	8
c) 4 18	2,2 2, 3, 3	2	2
d) 28 32	2, 2, 7 2, 2, 2, 2, 2	2, 2	4
e) 40 24	2, 2, 2, 5 2, 2, 2, 3	2, 2, 2	8

2. Complete the HCF chart. Some are done for you.

HCF	12	15	18	30	36
3	3	3	3	3	3
6	6	3	6	6	6
9	3	3	9	3	9
12	12	3	6	6	12
24	12	3	6	6	12

3. These numbers have already been factorized for you. Find the HCF of the given pairs.

a) 20, 40

20=2×2×5

40=2×2×2×5

Common factors

=2, 2, 5(Multiply these

three to get HCF.)

=2×2×5=20

HCF=20

c) 27, 40

27=3×3×3

40=2×2×2×5

Common factors

=1

(No common factors for)

27, 40 so HCF is 1)

HCF=1

e) 14, 16

14=2×7

16=2×2×2×2

Common factors

=2

HCF=2

4. Find the HCF of these numbers using the prime factorization method.

a) 6, 10

6= 2 × 3

10=2 × 5

Common factors is 2

c) 15, 25

15=5 × 3

25=5 × 5

Common factors is 5

e) 28, 36

28=2 × 2 × 7

36=2 × 2 × 3 × 3

Common factors are 2,2

g) 27, 36

27=3 × 3 × 3

36=3 × 3 × 2 × 2

Common factors are 3, 3

=3×3= 9

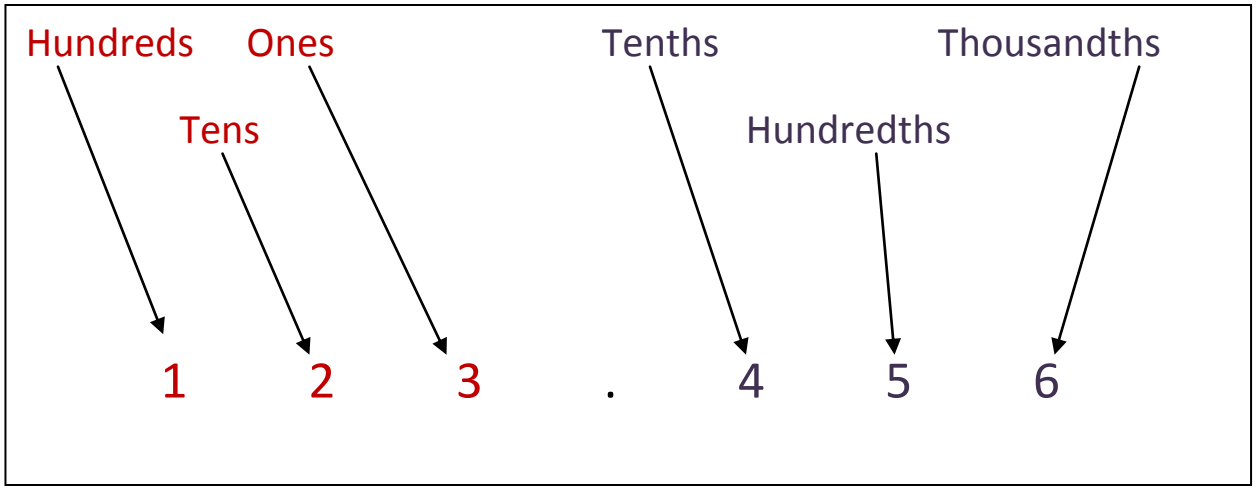
∴ HCF of 27, 36 is 9.

7. Decimals

Exercise 7.1

Place value:……..thousand hundred tens ones

In decimals:……..



2. For the number 186.45 write the digit in the:

a) Tens place

= 8

b) Tenths place

=4

c) Hundreds place

= 1

d) Hundredths place

= 5

e) Ones place

=6

3. Build a decimal with:

a)Ans: 4.7

b)Ans: 58.96

c)Ans: 5.78

4. Express as a decimal:

a) $\frac{13}{10}$

= 1.3 (Denominator is 10 so after the decimal point only one digit)

b) $\frac{27}{100}$

= 0.27 (Denominator is 100 so after the decimal point two digits)

c) $\frac{142}{10}$

= 14.2 (Denominator is 10 so after the decimal point only one digit)

d) $\frac{843}{100}$

= 8.43 (Denominator is 100 so after the decimal point two digits)

e) $\frac{5}{100}$

= 0.05 (Denominator is 100 so after the decimal point put a 0 to make two digits)

5. Express as a fraction.

a) 0.11

= $\frac{11}{100}$ (After decimal point two digit so the Denominator is 100)

b) 0.8

= $\frac{8}{10}$ (After decimal point one digit so Denominator is 10)

c) 1.1

= $\frac{11}{10}$

d) 3.07

= $\frac{307}{100}$

e) 5.84

= $\frac{584}{100}$

6. Give the next three numbers:

a) 1.2, 1.3, 1.4, 1.5, 1.6, 1.7

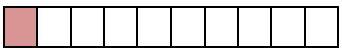
c) 11.8, 11.9, 12.0, 12.1, 12.2, 12.3

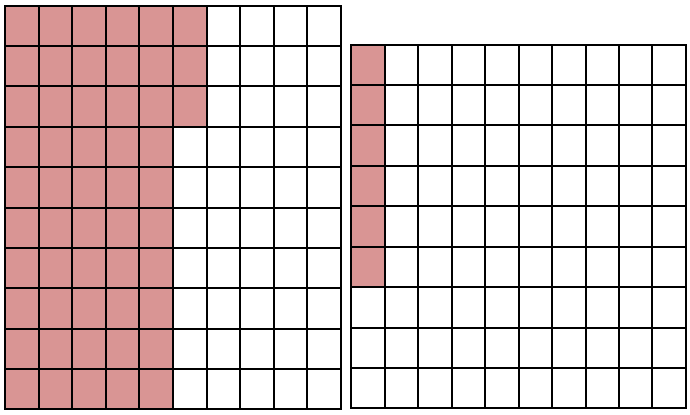
e) 6.02, 6.03, 6.04, 6.05, 6.06, 6.07

Exercise 7.2

1. Color to compare

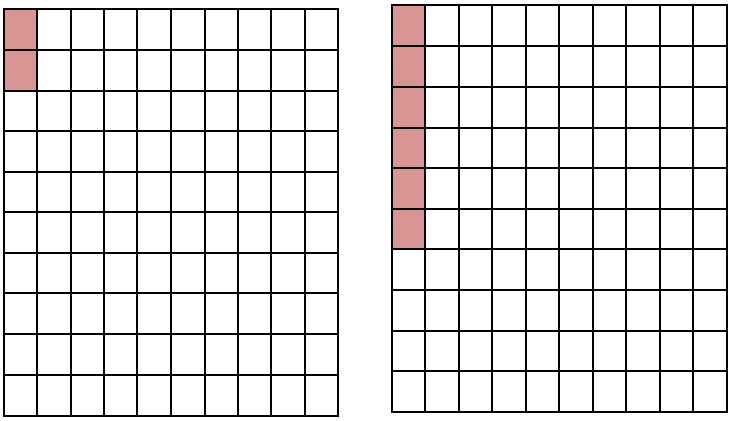
a)





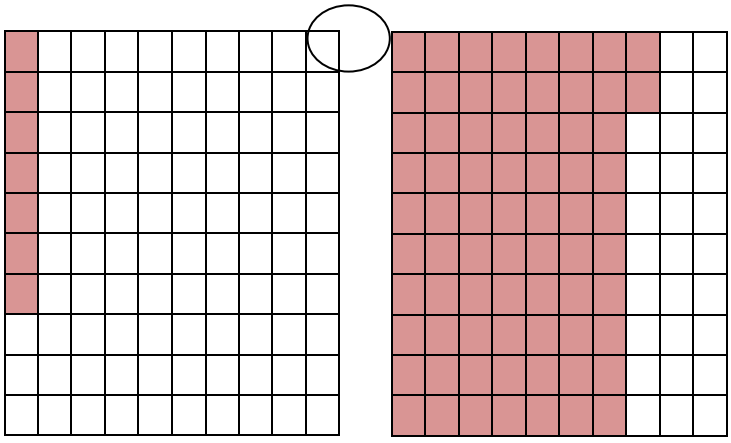
0.53 (>) 0.07

c)



0.2 (<) 0.6

e)



0.7 < 0.72

2. Compare using <, > or =.(See the numbers before and after the decimal point).

a) 9.099 < 9.99 c) 6.6 > 6.066 e) 5.091 < 5.09

g) 6.4 > 6.359 i) 0.76 < 0.8

Exercise 7.3

1. Rewrite in descending order:

a) 8.06 8.059 8.013 8.3

Descending order:

8.3 8.06 8.059 8.013

c) 19.4 1.945 19.46 1.95

Descending order:

19.46 19.4 1.95 1.945

e) 8.63 80.002 8.6 80.2

Descending order:

80.2 80.2 8.63 8.6

2. Rewrite in ascending order:

a) 0.04 1.04 0.14 1.14

Ascending order:

0.04 0.14 1.04 1.14

c) 14.19 19.14 14.9 19.4

Ascending order:

14.19 14.9 19.14 19.4

e) 9.09 0.99 1.1 6

Ascending order:

0.99 1.1 6 9.09

Exercise 7.4

1. Color to show how much juice in all. One has been done for you.

b) Ans: 0.4 / + 1.6 / = 2.0 / or 2 /

c) Ans: 1.2 / + 1.8 / = 3.0 / or 3 /

2. Add.

a) 23.11 + 3.8

$$\begin{array}{r} 23.11 \\ +\ 3.8 \\ \hline 26.91 \end{array}$$

c) 9 +1.8

$$\begin{array}{r} 9 \\ +1.8 \\ \hline 10.8 \end{array}$$

e) 0.1 + 1 + 11.40

$$\begin{array}{r} 11.40 \\ 1 \\ +\ 0.1 \\ \hline \end{array}$$

1 1 . 4 0

g) 9.85 + 0.61

9 . 8 5

+ 0 . 6 1

1 0 . 4 6

i) 17.01 + 18.1

1 7 . 0 1

+ 1 8 . 1

3 5 . 1 1

3. Compare using >, < or =.

a) 5.72 + 3.80 8.52

5 . 7 2

+3 . 8 0

9 . 5 2

c) 3 + 0.05 0.35

3

+0 . 0 5

3 . 0 5

e) 61.2 + 5.31 48.72 + 12.9

6 1 . 2

+ 5 . 3 1

6 6 . 5 1

4 8 . 7 2

+ 1 2 . 9

6 1 . 6 2

9.52 > 8.52 3.05 > 0.35 66.51 > 61.62

Exercise 7.5

1. Subtract.

a) 9.32 – 4.16

9 . 3 2

- 4 . 1 6

5 . 1 6

c) 7 – 4.32

7 . 0 0

- 4 . 3 2

2 . 6 8

e) 11.01 – 10.11

1 1 . 0 1

- 1 0 . 1 1

0 . 9 0

g) 0.62 – 0.23

0 . 6 2

- 0 . 2 3

0 . 3 9

i) 14.1 – 9.25

1 4 . 1

- 9 . 2 5

4 . 8 5

l) 15.1 – 12.05

1 5 . 1

-1 2 . 0 5

2 . 0 5

2. What should be added to 2.1 to get 10?

Ans: 1 0 . 0

\- 2 . 1

7 . 9

To get 10, 7.9 should be added to 2.1

3. What should be taken away from 15 to get 3.96?

Ans: 1 5 . 0 0

\- 3 . 9 6

1 1 . 0 4

11.04 should be taken away from 15 to get 3.96

5. a) Arrange the name in order. Starting from the winner.

Name	**Point**
Arpita	99.52 point
Akeel	99.25 point
Edmond	80.5 point
Jagriti	80.2 point

b) How many more points did the winner get than the person who was last?

Ans: The winner= 9 9 . 5 2

The last person = - 8 0 . 2

1 9 . 3 2

The winner get 19.32 more than the person who was last.

c) How many points less did Edmond get than Akeel?

Ans: Akeel = 9 9 . 2 5

Edmond = - 8 0 . 5

1 8 . 7 5

Edmond got 18.75 less than Akeel.

6. Application in real life. Use addition or subtraction to solve.

a) Monday= 1 5 8 . 3 km

Tuesday= - 7 9 . 8 km

7 8 . 5 km

Ans: Arshit's father drove 78.5 km less on Tuesday.

b) A bean plant measured,

Friday = 8 . 5 cm

Saturday = + 0 . 7 5 cm

9 . 2 5 cm

Ans: On Saturday its height was 9.25cm

c) Thickness of book 1 = 3 . 8 cm

Thickness of book 2 = +2 . 0 3 cm

5 . 8 3 cm

The thickness of the two books is 5.83 cm.

d) Shanay = 6 8 . 1 sec

Swapneel = - 6 8 . 0 2 sec

0 0 . 0 8 seconds

Ans: Swapneel is faster than Shanay. 0.08 faster.

8. More About Decimals

Exercise 8.1

1. Multiply only the first in the series. Then use the rule of decimals to fill in the rest.

a)

1 2 7	1 2 . 7	1 . 2 7
× 8	× 8	× 8
1 0 1 6	1 0 1 . 6	1 0 . 1 6

b)

3 1 2	3 1 2	3 1 2
× 5	×0 . 5	× 0 . 0 5
1 5 6 0	1 5 6 0	1 5 6 0
= 1560	0 0 0	0 0 0
	+ 0 0 0	+ 0 0 0
	1 5 6 . 0	0 1 5 . 6 0
	= 156.0 or 156	= 15.60 or 15.6

2. Multiply.

a) 5.3×9

5 . 3
× 9
4 7 . 7

c) 24×0.9

2 4
×0.9
2 1.6

e) 2×3.45

3 . 4 5
× 2
6 . 9 0 or 6.9

g) 0.04×5

0 . 0 4
× 5
0 . 2 0 or 0.2

3. Multiply.

a) 28.25 × 10

10 × 28.25= 282.5 (Move the decimal point one place to the right)

c) 1.23 × 10

10 × 1.23 = 12.3 (Move the decimal point one place to the right)

e) 16.73 × 100

100 × 16.73 = 1673 (Move the decimal point two place to the right)

g) 0.14 × 1000

1000 × 0.14 = 140 (Move the decimal point three place to the right and one extra zero)

h) 0.8 × 1000

1000 × 0.8 = 800 (Move the decimal point three place to the right and two extra zero)

4. 32.1 × 10 = 321 c) 0.03 × 100 = 3 e) 1.86 × 10 = 18.6 g) 0.18 × 100 = 18

Exercise 8.2

1. Place the decimal point correctly in these quotients.

a) $8 \overline{)0.48}$ = 0.06 (After the point two digits)

d) $8 \overline{)27.2}$ = 03.4 (After decimal point one digit)

2. Divide. Check your answer with multiplication.

a) 82.17 ÷ 6

$$\begin{array}{r} 9.13 \\ 9 \overline{)82.17} \\ -81 \\ \hline 11 \\ -09 \\ \hline 27 \end{array}$$

CHECK

$$\begin{array}{r} 9.13 \\ \times \quad 9 \\ \hline 82.17 \end{array}$$

c) 272.22 ÷ 6

$$\begin{array}{r} 45.37 \\ 6 \overline{)272.22} \\ -24 \\ \hline 32 \\ -30 \\ \hline 22 \end{array}$$

CHECK

$$\begin{array}{r} 45.37 \\ \times \quad 6 \\ \hline 272.22 \end{array}$$

```
  -27
  ---
   00
```

```
  -18
  ---
   42
  -42
  ---
   00
```

e) 17.73 ÷ 3

```
      5.91
   ---------
3 ) 17.73
   -15
   ---
    27
   -27
   ---
    03
   -03
   ---
    00
```

CHECK

```
  5.91
×    3
-------
17.73
```

g) 27.54 ÷ 9

```
      3.06
   ---------
9 ) 27.54
   -27
   ---
    0.54
   - 54
   ---
    00
```

CHECK

```
  3.06
×    9
-------
27.54
```

3. Divide until the remainder is zero:

a) 90.3 ÷ 6

```
      15.05
   ---------
6 ) 90.30
   -6
   ---
    30
   -30
   ---
    0.3
   -0.0
   ----
     30
    -30
    ---
     00
```

c) 3.1 ÷ 4

```
      0.775
   ---------
4 ) 3.100
   -0
   ---
    3.1
   -28
   ---
    30
   -28
   ---
    28
   -28
   ---
    00
```

e) 7.4 ÷ 4

```
      1.085
   ---------
4 ) 7.40
   -4
   ---
    3
   -0
   ---
    3.4
   -32
   ---
    20
   -20
   ---
    00
```

(Write an extra zero in the dividend to complete the division).

4. Divide.

a) 42.8 ÷ 10

42.8 ÷ 100

42.8 ÷ 10 = 4.28 (Move the decimal point one place to the left.)

42.8 ÷ 100 = 0.428 (Move the decimal point two place to the place.)

d) 2.56 ÷ 1000

25.6 ÷ 1000

2.56 ÷ 1000 = 0.00226 (Move the decimal point three place to the left.)

25.6 ÷ 1000 = 0.0256 (Move the decimal point three place to the left.)

5. Fill in the blanks:

a) 0.6 ÷ 10 = 0.06(Decimal point one place left) b) 68.14 ÷ 100 = 0.6814(two place left)

e) 7 ÷ 1000 = 0.007 (three place left)

6. Application in real life. Solve using multiplication or division.

a) Water needed each day by hikers = 1.75 litres

Water needed for 10 days = 1.75 × 10 = 17.5 litres (Move the decimal point one place right)

Ans: The hikers carry 17.5 litres of water.

b) The Koshy family rode = 11.5 km a day

For 3 days = 11.5 × 3

= 34.5 km

Ans: The Koshy family travel 11.5 km.

```
 1 1 . 5
 ×     3
 -------
 3 4 . 5
```

c) Wire bought by Mr Shah = 1.76m

Wire cut into 8 pieces = 1.76 ÷ 8

= 0.22 m

Ans: The length of each wire is 0.22m.

```
        0 . 2 2
      ---------
8   ) 1 . 7 6
      -0
      -------
        1   7
      - 1   6
      -------
            1 6
          - 1 6
```

d) 9 identical gold rings = 40.5 g

Weight of each ring = 40.5 ÷ 9

= 4.5 g

```
      4.5
   ------
9 ) 40.5
   -36
   ----
     45
    -45
    ---
      00
```

Exercise 8.3

1. Here are some things needed to make a model air plane and their prices.

Lets take the below pictures as item 1, 2, 3, 4, and 5 .

1st item = 3 for ₹ 16.50

One piece = 16.50 ÷ 3

= ₹ 5.50 each

Ranbir needs 5 pieces = ₹ 5.50 × 5

= ₹ 27.50

2nd item = 2 for ₹ 23

Ranbir needs 8 pieces = ₹ 23 × 4(since 2 for 23 and 2 × 4= 8)

= ₹92

3rd item = 3 for ₹ 25.50

0ne piece = 25.50 ÷ 3 = 8.50

Ranbir needs 1 piece = ₹ 8.50

4th item = 1 for ₹ 12

Ranbir needs 1 piece = ₹ 12

5th item = 5 for ₹ 76.25

```
      5.50
   ------
3 ) 16.50
   -15
   ---
     1.5
    -1.5
    ----
      00
     -00
     ---
      00
    5.50
    × 5
    ----
   27.50
```

One item = ₹ 76.25 ÷ 5 = ₹ 15.25

Ranbir needs 8 pieces = ₹ 15.25 × 8 = ₹ 122.0 0r ₹ 122

Item	Quality	Price in rupees	Cost of one of each item
Toothpaste	3	85.50	85.50÷3= 28.50
Soap	4	60.00	60÷4 = 15
Rice	8kg	202.00	202÷8 = 25.25
Wheat flour	10kg	185.00	185÷10 = 18.5
Washing powder	2kg	86.00	86÷2 = 43
Biscuits	6packets	70.50	70.50÷6 = 11.75
Buns	10pieces	42.00	42÷10 = 25.2
	Total	731.00	

Item	Quality	Price
Toothpaste	2	28.50×2 = 57
Rice	5kg	25.25×5 = 126.25
Wheat flour	5kg	18.5×5= 92.50
Biscuits	3packets	11.75×3 = 35.25
	Total	311.00

Item	Quantity	Price
Soap	2	15×2= 30
Rice	10kg	25.25×10 = 252.50
Washing powder	1kg	43×1 = 43
Biscuits	5packets	11.75×5 = 58.75
Buns	6pieces	4.2×6 = 25.20
	Total	409.45

11. Measurement

Things to remember:

Length

1 km (kilometer) = 1000m (meters)

1 m (meter) = 100 cm (centimeters)

1cm = 10 mm

Mass

1 kg (kilogram) = 1000 g (grams)

Capacity

1 l (litre) = 1000 ml (millilitres)

Exercise 11.1

Work for the students:

Using your ruler measure the items in the textbook. Measure a)in cm and mm, b)in mm, c)mm.

Exercise 11.2

1. Fill in the blanks:

a) Height of a glass = 0.12m = 12cm (1m=100cm, 100×0.12=12)

b) Height of a tree = 960cm = 9.6 m (100=1m, 960÷100=9.6)

c) Height of a building = 0.1km = 100m (1km=1000m, 1000×0.1=100)

f) Length of a tennis racket = 72cm = 720mm (1cm=10mm, 10×72=720)

j) Thickness of an encyclopedia = 42mm = 4.2cm (10mm=1cm, 42÷10=4.2)

2. Fill in the blanks:

a) 6.2 km = 6200 m (1km=1000m, 1000×6.2=6200)

d) 6300m = 6.3 km (1000m=1km, 6300÷1000=6.3)

3. Complete the table:

	Full form	In bigger units	In smaller units
a.	36m 14cm	36.14m	3614cm
b.	98m 98cm	98.98m	9898cm
c.	16m 24cm	16.24m	1624cm
d.	11cm 2mm	11.2cm	112cm
e.	28cm 7mm	2.87cm	287mm
f.	49cm 8mm	49.8cm	498mm

Exercise 11.3

1. Fill in the blanks:

a) 19.386 kg = 19 kg 386 g c) 26 kg 14 g = 2614 g e) 3246 g = 3 kg 246 g

f) 11296 g = 11.296 kg

2. Find the weight in gram (g).

Grapes: 0.42 kg

1kg = 1000 g

0.42 kg = 1000 × 0.42

= 420 g

Filled bag: 5.19 kg

1kg = 1000 g

5.19 kg = 1000 × 5.19

= 5190 g

3. Find the weight in kg.

Candle: 125 g

1000 g = 1 kg

125 g = 1000 ÷ 125

= 0.125 g

Potato bag: 9500 g

1000 g= 1 kg

9500 g = 9500 ÷ 1000

= 9.5 g

4. Convert.(1000 g = 1 kg , 1kg = 1000 g)

a) 715 g = 0.715 kg (715÷1000) b) 0.06 kg = 60 g (0.06×1000)

e) 12.1 kg = 12100 g (12.1×1000) f) 8008 g = 8.008 kg (8008÷1000)

h) 0.35 kg = 350 g (0.35×1000)

5. a) 1kg = 1000g

50g = 1000 ÷ 50

= 20

Ans: 20 eggs in 1 kg.

b) Kabir's weight = 32 kg = 32000

Srinath's weight = 1750g more than kabir's weight

= 1750 + 32000 g

= 33750 g

Ans: Srinath's weight is 33.75 g

c) Mrs Anwar bought,

Apples = 500 g

Grapes = 750 g

Strawberries = 250 g

Orange = 1 kg = 1000 g

Total = 1000 + 250 + 750 + 500

= 2500 g = 2.50 kg

Ans: She bought 2.50 kg 0f fruits.

Exercise 11.4

1. Match the following:

a)	3 l 725 ml	iv) 3725 ml
b)	30 l 725 ml	iii) 30.725 l
c)	8.685 l	ii) 8685 ml
d)	80685 ml	v) 80.685 ml
e)	1.450 l	vi) 1 l 450 ml
f)	14500 ml	i) 14.500 l

2. Find the capacity in ml. (1L = 1000 ml)

A pan = 1.3 L

1 L = 1000 ml

1.3 L = 1000 × 1.3

= 1300 ml

Bottle = 0.9

1 L = 1000 ml

0.9 L = 1000 × 0.9

= 900 ml

3. Find the capacity in L. (1000 ml = 1 L)

A bowl = 335 ml

1000 ml = 1 L

335 ml = 1000 ÷ 335

= 0.335 L

A paint container = 5250 ml

1000 ml = 1 L

5250 ml = 5250 ÷ 1000

= 5.25 L

4. Convert the following:

a) 0.4 L = <u>400 ml</u> (0.4 × 1000)

f) 100 ml = <u>0.1 L</u> (1000 ÷ 100)

d) 750 ml = <u>0.75 L</u> (1000 ÷ 750)

i) 1.25 L = <u>1250 ml</u> (1000 × 1.25)

5. Problem solving:

a) A bottle of juice hold = 750 ml

= 750 × 2 (two bottles of juice in 1.5 L)

= 1500 ml (convert to L)

= 1.5 L (1500 ÷ 1000)

Ans: Yes, two such bottles can be poured onto a jar that holds 1.5 L.

b) A kettle holds = 900 ml

A tea cups holds = 150 ml

Filled tea cups = 900 – 150 = 750

750 – 150 = 600

600 – 150 = 450

450 – 150 = 300

300 – 150 = 150

150 – 150 = 0

Repeated subtraction

(900 ÷ 150 = 6)

∴ 6 tea cups of 150 ml each can be filled.

c) A shower drips an hour = 150 ml

Litres of water drip in 8 hours = 150 × 8

= 1200 ml (convert into litre)

= 1.2 L

∴ 1.2 litres of water drip from it in 8 hours.

Exercise 11.5

1. Add.

a) 17 m + 12 m 6 cm

= 1 7 m

+1 2 m 6 cm

2 9 m 6 cm

b) 6 cm 5 mm + 1 cm 9mm

6 cm 5 mm

+1 cm 9 mm

8 cm 4 mm

c) 5 kg 200 g + 6 kg 800 g

5 kg 2 0 0 g

+6 kg 8 0 0 g

1 2 kg 0 0 0 g

f) 5 L 600 ml + 2 L 500 ml

5 L 6 0 0 ml

+2 L 5 0 0 ml

8 L 1 0 0 ml

2. Subtract.

a) 10 m – 6 m 50 cm

1 0 m 0 0 cm (add two 0 in cm place)

- 6 m 5 0 cm

3 m 5 0 cm

b) 7 cm 8 mm – 1cm 9 mm

7 cm 8 mm

-1 cm 9 mm

5 cm 9 mm

d) 5 kg – 1kg 250g

5 kg 0 0 0 g (add three 0 in g place)

-1 kg 2 5 0 g

f) 10 L 250 ml – 1L 750ml

1 0 L 2 5 0 ml

- 1 L 7 5 0 ml

3 kg 7 5 0 g 8 L 5 0 0 ml

3. Application in real life:

a) A snail travelled,

One day = 2 m 3 2 cm

Second day = + 1 m 9 3 cm

4 m 2 5 cm

∴ The snail travel 4 m 25 cm in all.

b) A worm climbing up a high wall,

One day = 1 2 m 0 0 cm

Evening = - 2 m 3 5 cm

9 m 6 5 cm

∴ The worm reached 9 m 65 cm on that day.

c) A jug contain lime juice = 1 L

Poured into 3 glasses,

1st glass = 2 0 0 ml

2nd glass= 1 5 0 ml

3rd glass = +3 0 0 ml

Total 6 5 0 ml

Left over juice = 1 L – 650 ml (convert L to ml,1L = 1000 ml)

= 1000 – 650 ml

= 1 0 0 0

- 6 5 0

3 5 0 ml

∴ 350 juice is left in the jug.

d) A gold brick weight before melting = 4 kg

Lost weight after melting = 150 g

Total left = 4 kg – 150 g (convert 4 kg to g, 1 kg = 1000g so 4kg = 4000g)

$$\begin{array}{r} = \ 4\,0\,0\,0\ g \\ -\ 1\,5\,0\ g \\ \hline 3\,8\,5\,0\ g \end{array}$$

∴ 3 kg 850 g of gold was left in the brick.

e) A porter carrying two bag,

One bag weight = 16 kg 800 g

Other bag weight = 10 kg 150 g

$$\begin{array}{r} \text{Total weight the porter carry} = \ 1\,6\ kg\ 8\,0\,0\ g \\ = +1\,0\ kg\ 9\,5\,0\ g \\ \hline 2\,7\ KG\ 7\,5\,0\ g \end{array}$$

∴ The porter was carrying 27 kg 750 g in his bag.

f) Akhilesh Height = 150 cm tall

When he raise his arms = 215 cm

The length of Akhelish arms = 215 – 150 cm

`

$$\begin{array}{r} = \ 2\,1\,5\ cm \\ -\ 1\,5\,0\ cm \\ \hline 6\,5\ cm \end{array}$$

∴ Akhelish arms is 65 cm long.

Exercise 11.6

Question 1 and 3 try doing by yourself by measuring it.

2. Fill in the blanks with the correct unit.

a) A bicycle weights about 25 kg.

b) A car is about 3 m long.

c) A bucket holds about 20 L of water.

d) The length of a latch is about 12 cm.

e) A bottle of an aerated drink holds about 300 ml.

12. Perimeter, Area and Volume.

Study the formulas:

Rectangle:

Perimeter of a rectangle = 2 × (length + breadth) or

= 2 (l + b)

Area of a rectangle = length × breadth or = (l × b)

Square:

Perimeter of a square = 4 × length of side or 4 × (side)

Area of a square = Side × Side

Volume:

Volume = L × B × H

1. Find the perimeter of these objects by using the shortcut.

a) A rectangular calculator.

Length = 90 cm, Breadth = 30 cm

Perimeter of a rectangle (calculator) = 2 × (l + b)

= 2 × (90 + 30)

= 2 × 120 cm

= 240 cm

f) A square carpet.

Side = 60 cm

Perimeter of a square carpet = 4 × length of side

= 4 × 60 cm

= 240 cm

2. Find the perimeter of these squares. (4×30=120)

	(f)	(g)	(h)	(i)	(j)
Side of square in cm	30	41	55	63	92
Perimeter in cm	120	164	220	252	368

3. Find the perimeter of these rectangles. (3+6=9,2×9=18)

	(f)	(g)	(h)	(i)	(j)
L in cm	3	4	5	8	7
B in cm	6	6	6	6	9
P in cm	18	20	22	28	32

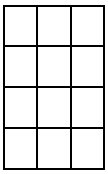
4. The perimeter is given. Find the side of these squares. (172 ÷ 4 = 43)

	(f)	(g)	(h)	(i)	(j)
P in cm	172	232	300	384	556
Side of square in cm	43	58	75	96	139

Exercise 12.2

1. Use the shortcut to find the area of these figures. Give your answer in square units. (Here in these questions you don't need to use the formula as it said to use shortcut)

a)

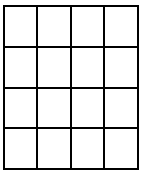


L = 4 unit

B = 3 unit

A = 12 sq. units

c)



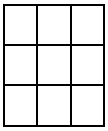
L = 4 units

B = 4 units

A = 16 sq. units

2. Find the area of these shapes using the shortcut. Give your answer in square units.

a)

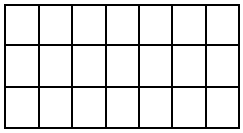


L = 3 units

B = 3 units

A= 9 sq. units

c)



L = 7 units

B= 3 units

A= 21 sq. units

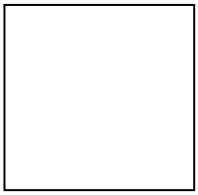
3. 3.7 cm

2.7 cm

L= 3.7 cm, B= 2.7 cm

A= 2.7 × 3.7 = 9.99 sq. cm

c) 2 cm



2 cm

L=2 cm, B= 2cm

A= 4 sq.cm

4. Find the area of these shapes.

a) L= 9 cm, B= 5 cm

A= L × b

= 9 × 5

= 45 sq.cm

c) L= 13 cm, B= 5 cm

A= L × b

= 13 × 5

= 65 sq.cm

e) L= 9cm, b= 2.1 cm

= 9 ×2.2 = 19.8 sq.cm

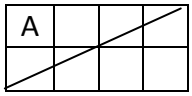
5. Fill in the columns.

Length in cm	7	4	2	9	6	28	13	11	11	17
Breadth in cm	3	12	8	4	7	4	10	17	20	8
Area in cm	21	48	16	36	42	112	130	187	220	136

Exercise 12.3

1. Give the area of the shaded triangle in each figure.

a)



Let the shaded triangle be A,

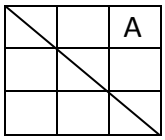
To find, Triangle A

Since triangle is half the rectangle, its area will be half the area of the rectangle.

Therefore Area of a rectangle = 8 sq.cm (count the square inside the rectangular box)

Area of a triangle = 4 sq.cm (8 ÷ 2= 4)

c)



Let the shaded triangle be A,

Area of a square = 9 sq.cm

Area of a triangle = 4.5 sq.cm (9 ÷ 2 = 4.5)

Exercise 12.5

4. Application in real life.

a) Breadth of the garden = 9.3 m

Length of the garden = 17.7 m

Perimeter of the garden= 2 (l+b) (using perimeter of a rectangle)

= 2 (17.7 + 9.3)

= 2 × 27

= 54 m

b) A rectangular backyard (breadth) = 32m

Length = 46m

Perimeter of a rectangle =2(L + b)

=2 (46 + 32)m

= 156 m

Cost of the fencing = 156 m × ₹ 98

= ₹ 15,288

c) A square park (side) = 70m

Perimeter of a square = 4 × side (using the formula of perimeter of a square)

= 4 × 70 m

= 280 m

She walks around the park five times,

Total number of meter she walked = 280 × 5

= 1400m or 1.4 km

d) Perimeter of a square = 100 cm

Length of the side =?

Perimeter of a square = 100 cm

= 4 × length of the side = 100 cm (take 4 to the other side and divide to get the length of side)

= length of the side = 100 ÷ 4

= 25 cm

Now,

Area of the square = Side × Side (formula of area of a square)

= 25 × 25

= 625 sq.cm

Exercise 12.6

1. Find the volume of each of these. Give our answer in cu. cm.

a)One layer = 2 × 2 = 4 cubes

Volume = 4 cu.cm

d) One layer = 5 × 1 = 5 cubes

4 layers = 5 × 4 = 20 cubes

Volume = 20 cu.cm

g) One layer = 4 × 4 = 16 cubes

3 layers = 16 × 3 = 48 cubes

Volume = 48 cu.cm

2. Find the volume of each of these solid shapes. Give your answer in cu.cm.

a) 1 Layer = 4 cubes

2 Layer = 3 cubes

Volume = 4 + 3 = 7 cu.cm

c) 1 Layer = 4 cubes

2 Layers = 4 cubes

3 layers = 4 cubes

Volume = 4 + 4+ 4 = 12 cu.cm

g) 1 Layer = 4 cubes

2 Layers = 3 cubes

3 Layers = 4 cubes

Volume = 4 + 3 + 4 = 11 cu.cm

Exercise 12.7

Volume = l × b × h

1. Find the volume of these solids.

a) length = 10 cm
Breadth = 3 cm
Height = 2 cm
Volume = l × b × h
= 10 × 3 × 2
= 60 cu. cm

c) Length = 12 mm

Breadth = 4 mm

Height = 8 mm

Volume = 12 × 4 × 8

= 384 cu. mm

2. Find the volume of these objects.

a) L = 10 cm

B = 6 cm

H = 2 cm

V = l × b × h

= 10 × 6 × 2

= 120 cu. cm

e) L = 8 cm

B = 12 cm

H = 2 cm

V = 12 × 8 × 2

= 192 cu.cm

3. Find the volume of each of the following.

a) l = 12 mm

b = 20 mm

h = 13 mm

V = 3120 cu. mm

c) l = 8 m

b = 3m

h = 16 m

V = 384 cu. m

4. Complete the table. (**To find, length =(b + h) ÷ v , breadth = (l + h) ÷ v , height = (l + b) ÷ v)**

	Length	**Breadth**	**Height**	**Volume**
(a)	3 cm	8 m	7 m	168 cu. m
(b)	6 cm	4 cm	5 cm	120 cu. cm
(c)	14 cm	4 cm	8 cm	448 cu. cm
(d)	11 mm	11 mm	10 mm	1210 cu. mm

5. Application in real life.

a) Length of the book = 24 cm

Breadth of the book = 14 cm

Height of the book = 2 cm

Volume of the book = l × b × h

= 24 × 14 × 2

= 672 cu. Cm

The volume of two such books = 2 × 672 cu. cm

= 1344 cu . cm

b) Length of the cupboard = 30 cm

Breadth of the cupboard = 45 cm

Height of the cupboard = 10 cm

Volume of the cupboard = l × b × h

= 30 × 45 × 10

= 13500 cu . cm

c) Length of the brick = 18 cm

Breadth of the brick = 6 cm

Height of the brick = 5 cm

Volume of the brick = 18 × 6 × 5

= 540 cu. cm

Volume of 10 bricks = 540 × 10 cu. cm

= 5400 cu. cm

Exercise 12.8

1. Find the volume of stone A and stone B.

Stone A

The water level in the measuring glass rose by 50 ml.

Therefore, **volume of the stone A = 50 ml** (150 ml – 100 ml = 50 ml)

Stone B

The water level in the measuring glass rose by 100 ml.

Therefore, **volume of the stone B = 100 ml** (200 ml – 100 ml = 100 ml)

2. By how many ml would the water level rise if you place objects with these volumes in the measuring glass?

a) 20 cu. cm

Ans: The water level will rose by **20 ml**. (if the measuring glass contain 100 ml of water and an object of 20 cu. cm is place the water level will rose to 120 ml i.e, 20 ml more)

c) 75 cu. cm

Ans: The water level will rose by **75 ml**.

3. What is the volume of objects that make the level of water rise by:

a) 9 ml

Ans: The volume of the object will be **9 cu. cm**.

c) 96 ml

Ans: The volume of the object will be **96 cu. cm.**