Al Bahr Al Ahmar International School

Revision Sheet Final Term May 2017

Name: _____ Grade: 6 Sec: A, B

Date: _____ Subject: Mathematics

CH# 7 SPEED

You have learnt to:

Calculate speed, distance and time given the other 2 quantities.

Use the formula:

- Speed = Distance ÷ Time
- Distance = Speed x Time
- Time = Distance ÷ Speed

Q.1: Do these.

i) Jalil can cycle 8km in one hour.

His speed is 8 km/h.

ii) Lalita can run 300 m in one minute.

Her speed is 300 m/min.

iii) A marble rolls 9 cm in one second.

Its speed is 9 cm/s.

iv) Mingwei throws a stone and it falls 2 m in one second.

Its speed is 2 m/s.

v) Bernard runs at a speed of 12.5 m/s.

In 1s, he runs 12.5 m.

vi) A lorry travelled at a speed of 48 km/h.

In 1h, the lorry travelled 48 km.

Q.2: A racing is travelling at a speed of 175 km/h. How far can it travel in 3 hours?

Distance = Speed x Time

Distance = 175x3

Distance = 525 Km.

Q.3: A bullet fired from a gun travels at a speed of 250 m/s. How far can it travel in 2 seconds?

Distance = Speed x Time

Distance = 250 x 2

Distance = 500m/s.

Q.4: Joyce swims 450 m in 5 minutes. Find her swimming speed in m/min?

Speed = Distance ÷ Time

Speed = 450 ÷ 5

Speed = 90 m/min.

Q.5: The distance between Town A and Town B is 147 km. A van takes 3 hours to travel from Town A to Town B. what is the speed of van?

Speed = Distance ÷ Time

Speed = 147 ÷ 3= 49 km/h.

Q.6: Lek Ming ran round a field at a speed of 8 m/s. How long did he take to run a distance of 96 m?

Time = Distance ÷ Speed

Time = 96 ÷ 8

= 12 seconds.

Q.7: A motorist take 80 minutes to travel 120 km. Find his speed.

Speed = Distance ÷ Time

Speed = 120 000 ÷ 4800

25 m/s.

Q.8: Aishah accidentally release the balloon she is holding. It rises 42 m in 8 seconds.

What is the speed at which balloon rises?

Speed = Distance ÷ Time

Speed = 42 ÷ 8

Speed = 5.25 m/s.

Q.9: A parachutist falls at a speed of 3200 m/min. what is the distance the parachutist

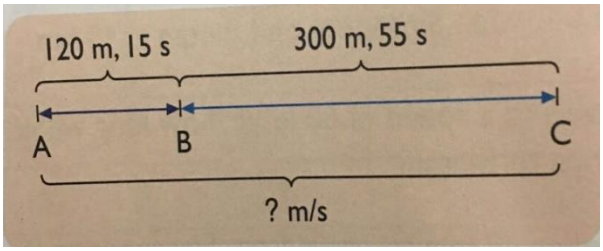
falls in 4 minutes?

Distance = Speed x Time

Distance = 3200 x 4 = 12800 m.

<u>Q.10:</u> Post A and Post B are 120 m apart. Post B and Post C are 300 m apart. Budin runs

from Post A to Post B in 15 seconds. Then he runs from Post B to Post C in 55 seconds. Find Budin's average speed for the distance from Post A to Post C.



Average speed = Total distance travelled ÷ Total time taken

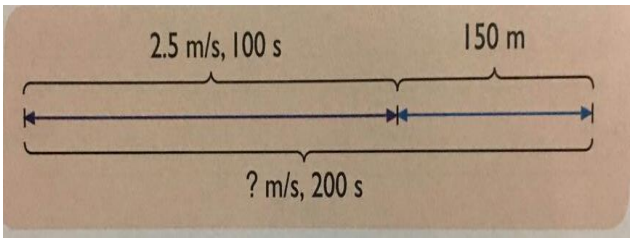
Total distance from post A to post C = 120 + 300 = 420m

Total time taken from post A to post C = 15+ 55 = 70 seconds

Average speed = 420 ÷ 70 = 6m/s.

<u>Q.11:</u> Pushpa swam for 100 seconds at a speed of 2.5 m/s. Then she swam for another

150m. In total, she took 200 seconds to complete the swim.



a) Find the total distance Pushpa had swum.

For the first part,

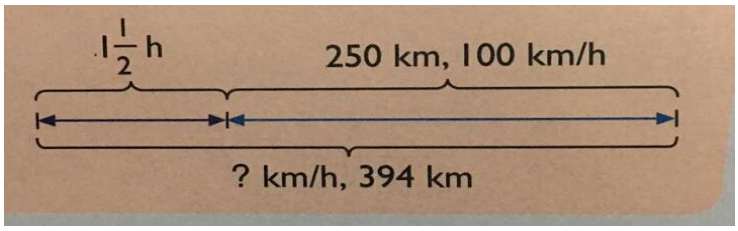
Distance swum = 2.5 x 100 = 250m

Total distance = 250m + 150 m = 400 m.

b) Find Pushpa's average speed.

Average speed = 400 ÷ 200 = 2 m/s

<u>Q.12:</u> A train travelled the first part of a journey in $1\frac{1}{2}$h. It travelled the remaining 250 km at an average speed of 100 km/h. The total distance travelled was 394 km.



a) **Find the total time taken for the journey.**

For second part of the journey

Time taken = 250 ÷ 100

Time taken = 2.5 hours = $2\frac{1}{2}$ h

Total time taken = $2\frac{1}{2}$ h + $1\frac{1}{2}$ h

= 4 hours

b) Find the average speed of the train for the whole journey.

Average speed = Total distance travelled ÷ Total time taken

= 394 ÷ 4

= $98\frac{1}{2}$ km/h

<u>Q.13:</u> Brenda took 4 minutes to walk from her house to the beach at a speed of 80 m/min. She took 5 minutes on her way back.

(a) What was distance between her house and the beach?

Distance = speed x time

Distance = 80 x 4

Distance = 320 m

(b) What was the speed for the return trip?

Speed = Distance ÷ Time

Speed = 320 ÷ 5

= 64 m/ min.

<u>Q.14:</u> Mr. Ng took 2 hours to travel 104 km from Village X to Village Y. He took another 3 hours to travel 186 km to Village Z.

(a) Find the total distance that Mr. Ng had travelled.

Total Distance = 104 + 186

Total Distance = 290 km

(b) What was the average speed for whole journey?

Average speed = Total distance travelled ÷ Total time taken

Average speed = 290 ÷ 5

Average speed = 58 km/ h.

<u>Q.15:</u> A van took 2 hours to travel from the office to a factory. If the distance between the two places is 92 km, find the speed of the van?

Speed = Distance ÷ Time

Speed = 92 ÷ 2

Speed = 46 km/h.

CH#8 Circles

You have learnt to:

- Identify and name the centre , radius , diameter of a circle
- Recognize a semicircle as a half a circle and a quadrant as quarter of a circle
- Circumference of a circle
- Area of a circle

Use the formula:

- Diameter = 2 x Radius
- Radius = Diameter ÷ 2
- Circumference of circle = π x Diameter
- Length of semicircle = $\frac{1}{2}$ x π x Diameter
- Length of quadrant = $\frac{1}{4}$ x π x Diameter
- Area of circle = π x radius x radius
- Area of semicircle = $\frac{1}{2}$ x π x radius x radius
- Area of quadrant = $\frac{1}{4}$ x π x radius x radius

Q.1: The radius of a circle is 6 cm. What is the length of its diameter?

Diameter = 2 x 6 = 12 cm.

Q.2: The diameter of a circle is 15 cm. What is the length of its radius?

Radius = 15 ÷ 2 = 7.5 cm

Q.3: The radius of a circular plate is 10.5 cm. Find its circumference.

Diameter = 2 x 10.5 = 21 cm

Circumference of circular plate = π x Diameter

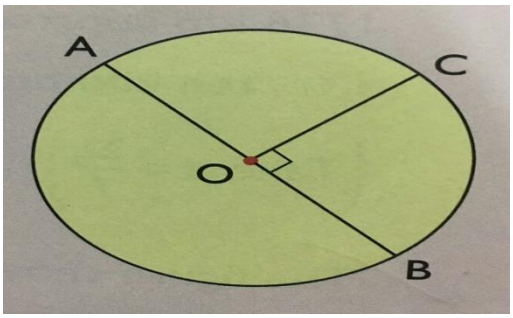
Circumference of circular plate = 3.14 x 21 = 66cm.

Q.4: The diameter of a bicycle wheel is 55cm. Find the circumference of the wheel.(Take π = 3.14)

Circumference of bicycle wheel = π x Diameter

Circumference of bicycle wheel = 3.14 x 55 =172.7 cm

Q.5: In the figure , O is the centre of the circle and AOB is a straight line.



a) OA, OB and OC are radii of the circle.

b) AB is a diameter of the circle.

c) OA = OC = OB .

d) AB = 2 x OC.

e) Circumference of the circle = π x AB.

Q.6: Find the circumference of the circle.

Diameter = 13 cm

Circumference of circle = π x Diameter

Circumference of circle = 3.14 x 13 = 41 cm.

Q.7: Find the area of a circle of radius 12cm. (Take π = 3.14).

Area of circle = π x radius x radius

Area of circle = 3.14 x 12 x 12 = 452.16 cm^2.

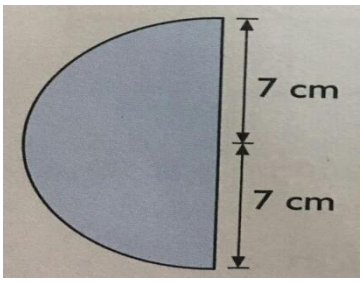
Q.8: The diameter of a circular disc is 18 cm. Find the area of the disc in terms of π.

Radius = 18 ÷ 2 = 9cm

Area of circular disc = π x radius x radius

Area of circular disc = π x 9 x 9 = 81 π cm^2.

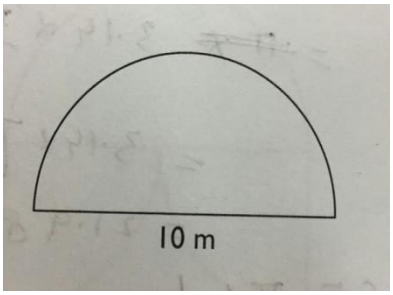
Q.9: Find the area of semicircle. (Take π = $\frac{22}{7}$)



Area of semicircle = $\frac{1}{2}$ x π x radius x radius

= $\frac{1}{2}$ x $\frac{22}{7}$ x 7 x 7 = 77 cm^2.

Q.10: Find the perimeter of the figure. (Take π = 3.14)



Length of semicircle = $\frac{1}{2}$ x π x Diameter

= $\frac{1}{2}$ x 3.14 x 10 = 15.7 cm

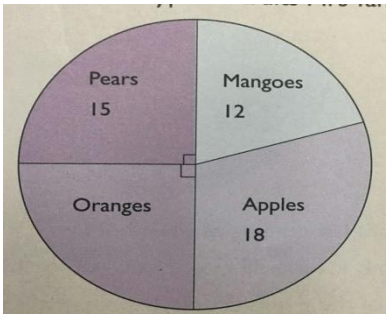
Perimeter of the figure = 15.7 + 10 = 25.7 cm

CH#9 Pie Charts

You have learnt to:

- Understanding Pie Charts
- Recognize that a pie chart is another kind of graph
- Recognize that the whole circle represents 100% or 1 whole

Q.1: The following pie chart shows the types of fruits Mrs. Tan sold one Monday morning.



a) Which type of fruit did she sell the most?

= Apples

b) How many oranges did she sell?

= 15 Oranges

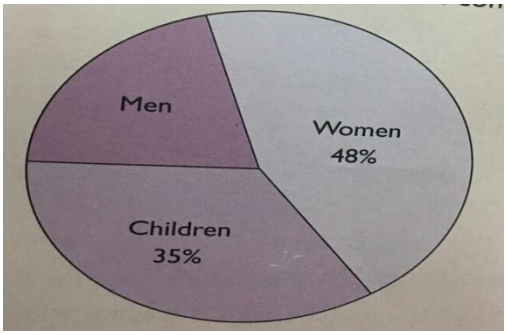
c) How many more apples than oranges did she sell?

= 3 Apples

d) How many fruits did she altogether?

= 15 + 15 +18 + 12 = 60 fruits.

<u>Q.2:</u> The pie chart shows the attendance at a school concert.



a) What percentage of the audience were women and children?

= 35% + 48% = 83%

b) What percentage of the audience were men?

= 100% - 83% = 17%

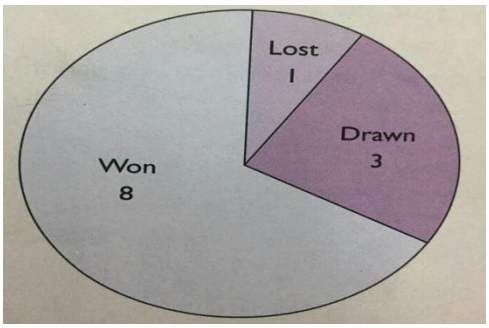
c) if there were 280 children at the concert, how many women were there?

35 % ⟵ 280 children

1% ⟵ 280 ÷ 35 = 8

48 % ⟵ 8 x 48 = 384 children

<u>Q.3:</u> The pie chart shows the results of matches played by the leading team in a football league.



a) How many matches did the team play?

= 8 + 3 +1= 12 matches.

b) What fraction of the matches did the team win?

$= \frac{8}{12}$

$= \frac{2}{3}$

c) What fraction of the matches ended in a draw?

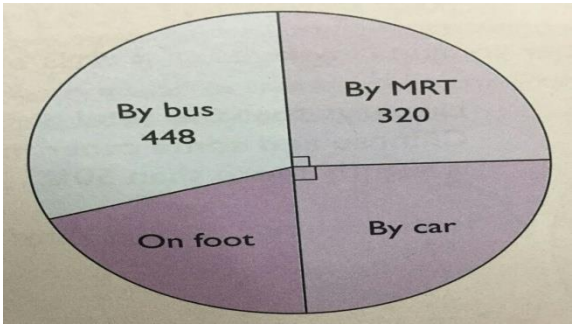
$= \frac{3}{12}$

$= \frac{1}{4}$

d) If 3 points were awarded for a win, 1 point for a draw and 0 points for a loss, how many points did the team score?

Total points = 3 x 8 + 1 x 3 + 0 x 1 = 27 points

<u>Q.4:</u> The pie chart shows how a group of pupils travel to their school.



a) How many pupils go to school by car?

= 320 pupils

b) What fraction of the pupils go to school by MRT?

$= \frac{1}{4}$

c) How many pupils go to school by MRT or by car?

= 320

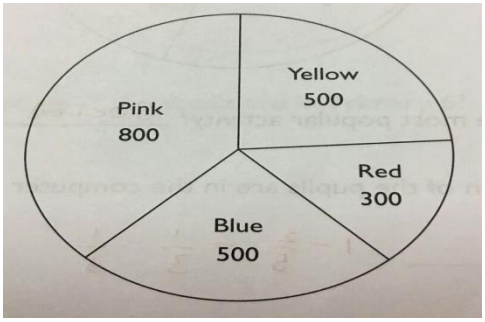
d) How many pupils walk to school?

= 640 – 448 = 192 Pupils

e) What percentage of the pupils go to school by bus?

= $\frac{448}{1280}$ x 100 % = 35%

<u>Q.5:</u> The pie chart shows the number of ribbons made in a factory in a day.



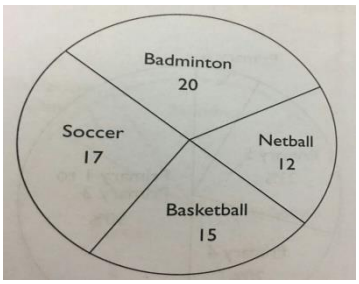
a) Which coloured ribbon is made in the smallest quantity?

= <u>Red</u>

b) How many ribbons are made in the factory?

= 800 + 500 + 300 + 500 = 2100 Ribbons

<u>Q.6:</u> The pie chart shows the favourite sports of a group of pupils.



a) What is the most popular sport?

= Badminton

b) How many pupils like basketball?

= 15 pupils

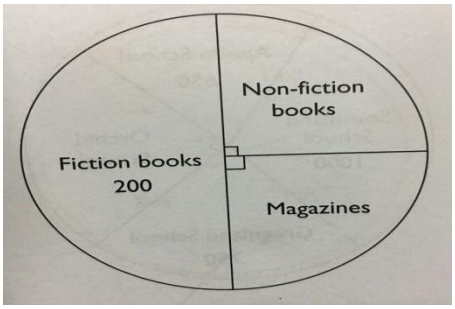
c) How many more pupils like soccer than basketball?

= 2 pupils

d) How many pupils are there altogether?

= 17 + 15 + 12 + 20 = 64 pupils

Q.7: The pie chart shows the number of reading materials in a library.



a) What fraction of the total number of reading material is fiction books?

$= \frac{1}{2}$

b) How many non-fiction books are there?

= 100 Non fiction books

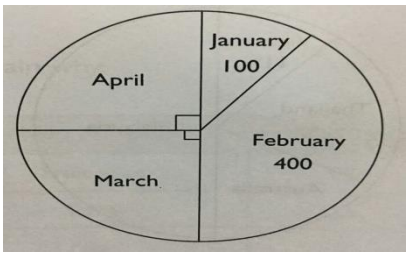
c) How many magazines are there?

= 100 magazines

d) What is the total number of reading materials in the library?

= 400

<u>Q.8:</u> The pie chart shows the number of mobile phones Mr. Chang sold in four months.



a) What percentage of the mobile phones were sold in April?

   = <u>25%</u>

b) How many mobile phones were sold in January and February?

   =<u>500</u> mobile phones

c) What was the total number of mobile phones sold in the four months?

   =1000 mobile phones

d) What percentage of mobile phones were sold in January?

   = 10%

e) What percentage of mobile phones were sold in February?

   = 40%

f) How many times as many mobile phones were sold in February as in January?
   = 4 times

CH #10 Area And Perimeter

You have learnt to:

Find the area and perimeter of figures related to squares, rectangles , triangles, circles , semicircles and quadrant

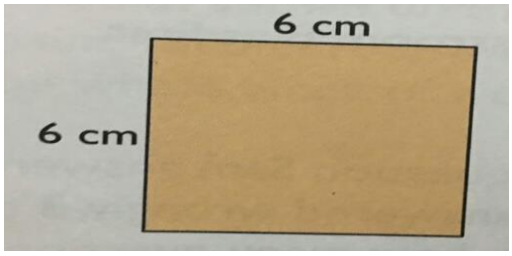
Use the formula:

Area of Square = side x side

Area of Rectangle = Length x breadth

Area of Triangle = $\frac{1}{2}$ x base x height

Q.1: A side of the square is 6 cm. Find the perimeter and area of the square.

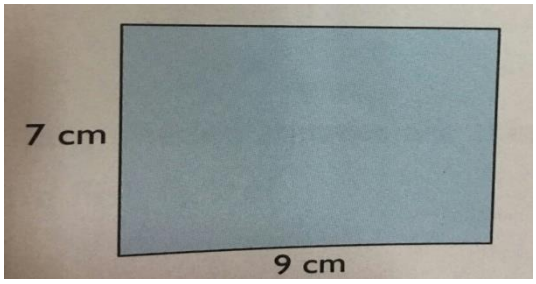


Area of Square = side x side

Area of Square = 6 x 6 = 36cm^2.

Perimeter of square = 4 x 6 = 24 cm.

Q.2: The rectangle has length 9cm and breadth 7 cm. Find the perimeter and area of the rectangle.



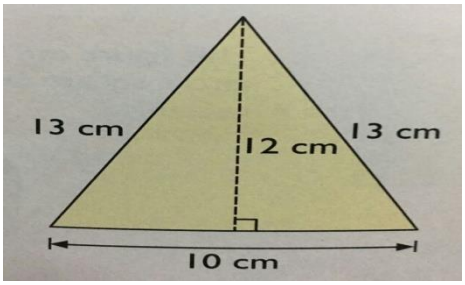
Area of Rectangle = Length x breadth

Area of Rectangle = 9 x 7

Area of Rectangle = 63 cm^2

Perimeter of rectangle = 9 + 9 + 7 +7 = 32cm

<u>Q.3:</u> The rectangle has sides 13 cm ,13 cm ,10cm and height of 12 cm. Find the perimeter and area of the triangle.

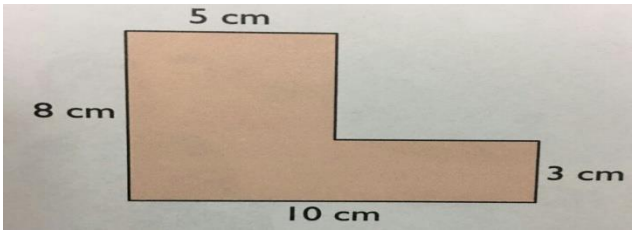


Area of Triangle = $\frac{1}{2}$ x base x height

Area of Triangle = $\frac{1}{2}$ x 10 x 12 = 60cm^2.

Perimeter of Triangle = 13 + 13 + 10 = 36 cm

<u>Q.4:</u> Find the area and perimeter of the figure.



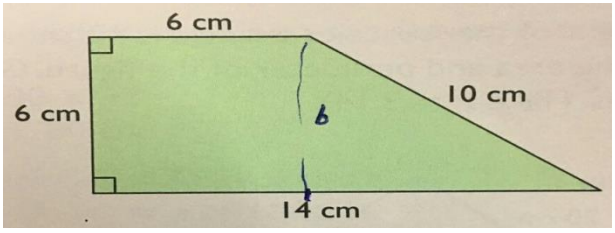
Area of square = 5 x 5 = 25 cm^2

Area of rectangle = 10 x 3 = 30 cm^2

Total area of the figure = 25 + 30 = 55 cm^2

Perimeter of figure = 8 + 10 + 8 +10 = 36 cm

<u>Q.5:</u> Find the area and perimeter of the trapezium.



Area of Square = side x side

Area of Square = 6 x 6 = 36 cm^2

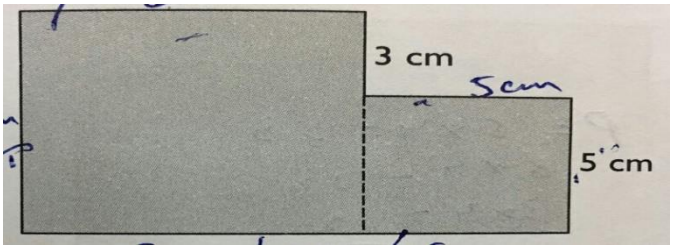
Area of Triangle = $\frac{1}{2}$ x base x height

Area of Triangle = $\frac{1}{2}$ x 6 x 8 = 24 cm^2

Area of trapezium = 36 cm^2 + 24 cm^2 = 60 cm^2

Perimeter of trapezium = 6 + 6 + 14 +10 = 36cm

<u>Q.6:</u> Find the area and perimeter of the figure.



Area of Square = side x side

Area of Square = 5 x 5 = 25 cm^2

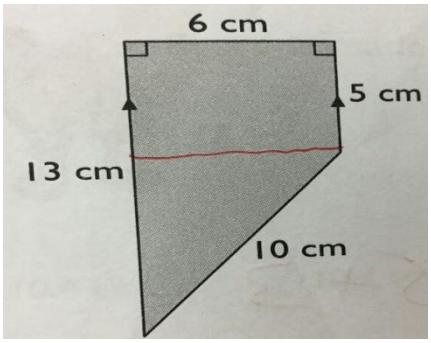
Area of Square = side x side

Area of Square = 8 x 8 = 64 cm^2

Area of figure = 25 cm^2 + 64 cm^2 = 89 cm^2

Perimeter of figure = 8 + 8 + 13 + 5 + 5 + 3 = 42 cm.

<u>Q.7:</u> Find the area and perimeter of the figure.



Area of Triangle = $\frac{1}{2}$ x base x height

Area of Triangle = $\frac{1}{2}$ x 6 x 8 = 24 cm^2

Area of Rectangle = 6 x 5 = 30 cm^2

Area of figure = 24 cm^2 + 30 cm^2 = 54 cm^2

Perimeter of figure = 6 + 5 + 10 + 13 = 34 cm

CH#11 Volume Of Solid And Liquids

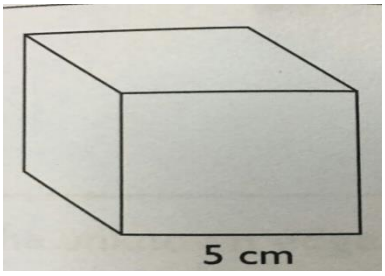
You have learnt to:

- Find one edge of a cuboid or rectangular tank
- Use a calculator to find the square root and cube root of a number

Use the formula:

- Volume of a cube = Length x Breadth x Height (A cube has the same length, breadth and height)
- Volume of a cuboid= Length x Breadth x Height
- Base Area = Length x breadth
- Volume of cuboid = Length x Area of shaded face
- Volume of cuboid = Area of square face x Length

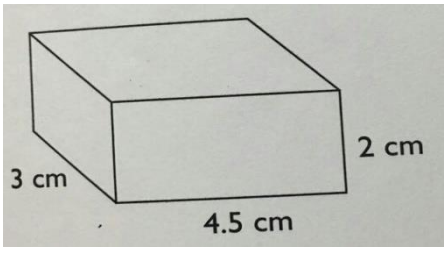
Q.1: Find the volume of the cube.



Volume of a cube = Length x Breadth x Height

Volume of a cube = 5 x 5 x 5 = 125 cm^3.

Q.2: Find the volume of the solid.



Volume of a solid = Length x Breadth x Height

Volume of a solid = 4.5 x 3 x 2 = 27 cm^3.

<u>Q.3:</u>Find the unknown edge of the cuboid.

Volume = 300 m^3

Height = $\frac{300}{5 \times 6}$

Height = 10 m

<u>Q.4:</u>Find the unknown side of each solid given the volume and area of the shaded side.

Volume = 6400 cm^3

Area = 32 cm^2

Volume of cuboid = Length x Area of shaded face

6400 = height x 32

6400 ÷ 32 = height

200 cm = height

<u>Q.5:</u>Find the square root of the following numbers.

a) $\sqrt{16} = 4$

b) $\sqrt{36} = 6$

c) $\sqrt{81} = 9$

d) $\sqrt{100} = 10$

e) $\sqrt{144} = 12$

f) $\sqrt{256} = 16$

Q.6:A cuboid has a volume of 72 cm^3. The length is 4 cm and breadth is 3 cm. Find its height.

$$\text{Height} = \frac{\text{volume of cuboid}}{\text{length x breadth}}$$

$$\text{Height} = \frac{72}{4 \times 3}$$

Height = 6 cm

Q.7: The area of a square is 4 cm^2. Find the length of one side of the square.

Area of square = side x side

$\sqrt{4}$ = side

2 cm = side

Q.8: The volume of cuboid is 1011 cm^3.Its length is 12 cm and its breadth is 7cm.Find its height.

$$\text{Height} = \frac{\text{volume of cuboid}}{\text{length x breadth}}$$

$$\text{Height} = \frac{1011}{12 \times 7}$$

Height = 12 cm

Q.9: A rectangular tank has a base area of 600 cm^2. Find its height if its capacity is 5.4 L.

Capacity of tank = 5.4 L = 5.4 x 1000 = 5400 cm^3

Capacity of tank = length x breadth x height

Capacity of tank = base area x height

5400 = 600 x height

5400 ÷ 600 = height

9cm = height

Best of Luck