

Negative Numbers Revision

Example

1) Which city has the coldest temperature?

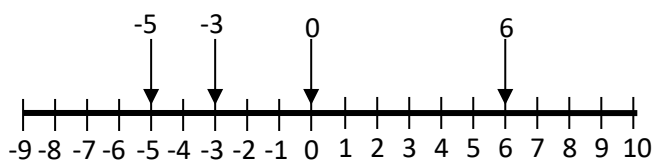
Glasgow	3°C
London	4°C
Manchester	-2°C
Newcastle	-3°C
Cardiff	1°C

Newcastle has the coldest temperature.
Here are the cities in order of warmest to coldest.

London	4°C is the warmest
Glasgow	3°C
Cardiff	1°C
Manchester	-2°C
Newcastle	-3°C is the coldest

2) Draw an arrow pointing to the following numbers on the number line below:

- a) 6 b) 0
c) -5 d) -3



Exercise

1) a) Which place has the coldest temperature?

Edinburgh	0°C
Dundee	1°C
Perth	-3°C
St. Andrews	-5°C

b) Which place has the coldest temperature?

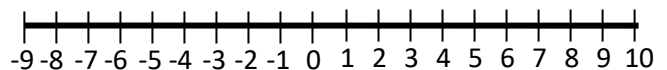
Paris	-1°C
Madrid	3°C
London	-3°C
Berlin	0°C

c) Which city has the warmest temperature?

Oslo	-10°C
Helsinki	-12°C
Copenhagen	-4°C
Stockholm	-5°C

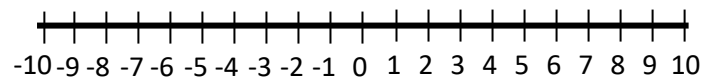
2) a) Copy the number line below and draw arrows pointing to the following numbers;

7 -1 -6



b) Copy the number line below and draw arrows to the following numbers;

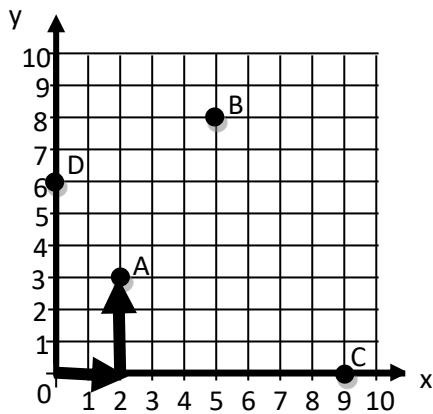
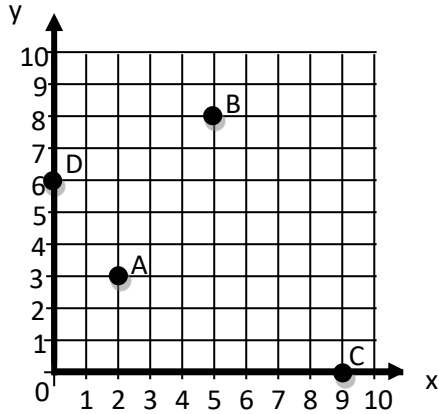
-7 -4 -10



Coordinates Revision

Examples

1) Write down the coordinates of point A?



A is two along and 3 up. A(2,3)

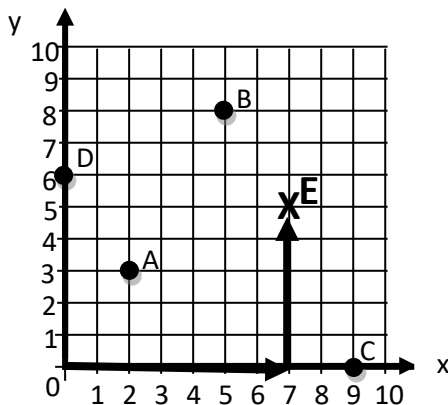
2) Write down the coordinates of B, C and D?

B is 5 along and 8 up. B(5,8)

C is 9 along and 0 up. C(9,0)

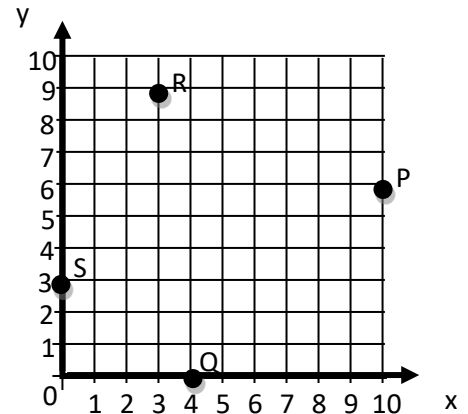
D is 0 along and 6 up. D(0,6)

3) Mark the point E(7,5) with a X.



Exercise

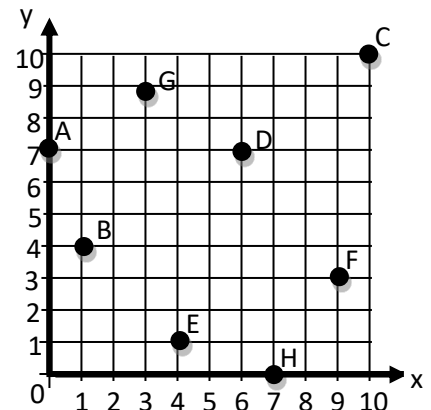
1) Write down the coordinates of points P, Q, R and S.



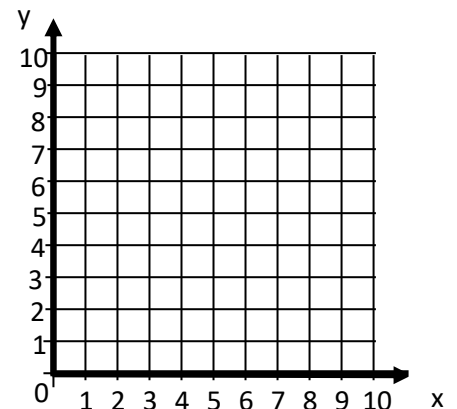
2) What point has the coordinates

a) (1,4)?

b) (0,7)?



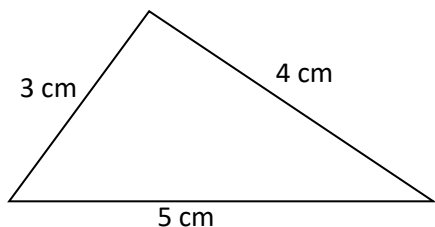
3) Copy the grid below and plot the points P(3,4), Q(6,8), R(5,0), S(0,10) and O(0,0).



Perimeter Revision

Examples

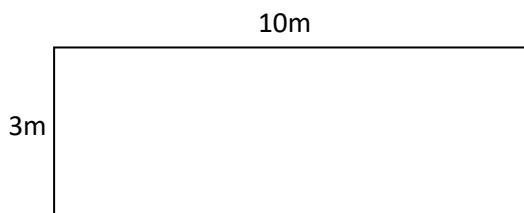
- 1) What is the perimeter of the triangle below?



The perimeter is the distance around the outside of the shape.

Perimeter = 3cm + 4cm + 5cm = 12cm

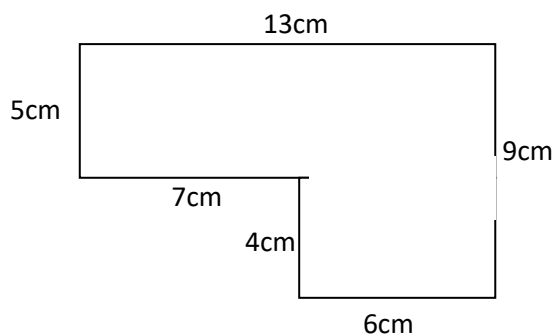
- 2) What is the perimeter of the rectangle below?



In a rectangle the opposite sides are equal.
So there are two sides which are 10m and two sides which are 3m.

Perimeter = 10m + 10m + 3m + 3m = 26m

- 3) What is the perimeter of the shape below?



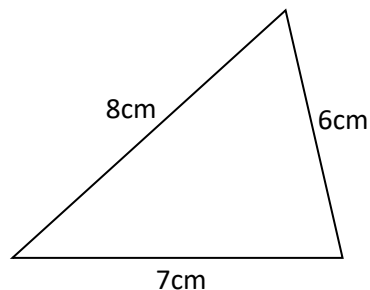
Add up all the sides around the outside of the shape.

Perimeter =
13cm+9cm+6cm+4cm+7cm+5cm = 44cm

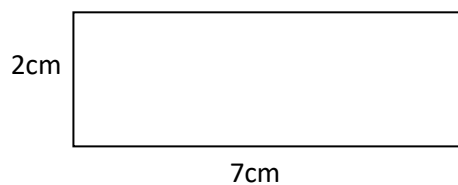
Exercise

What are the perimeters of the shapes below?

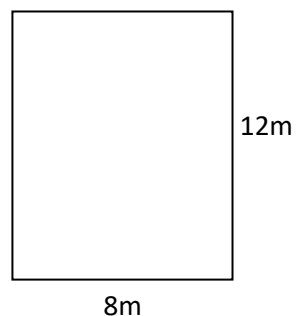
1)



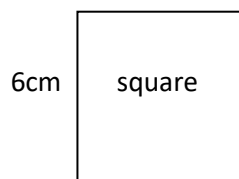
2)



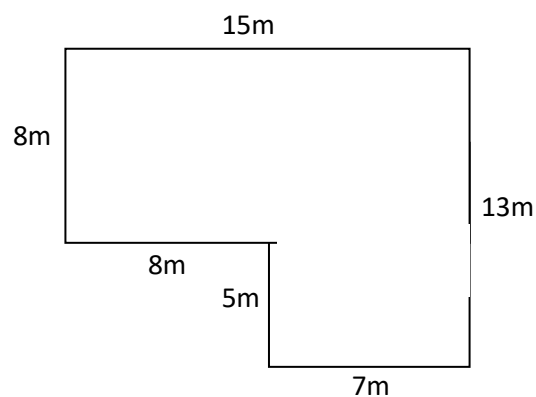
3)



4)



5)



Area Revision

Examples

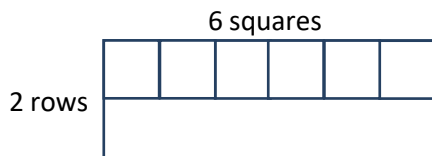
- 1) What is the area of this rectangle?



To find the area count the squares. There are 6 squares.

Area = 6cm^2

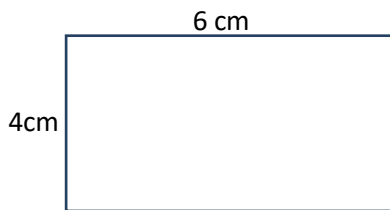
- 2) What is the area of this rectangle?



There are 6 squares in the top row. There are also 6 squares in the second row.

Area = 12cm^2

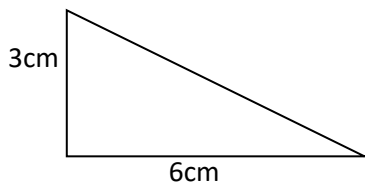
- 3) What is the area of this rectangle?



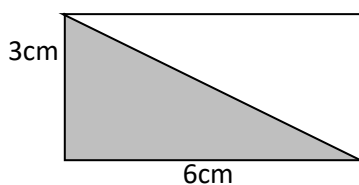
There will be 6 squares in the top row and there are 4 rows.

Area = $6 \times 4 = 24\text{cm}^2$

- 4) What is the area of this triangle?



This triangle is half of the rectangle below



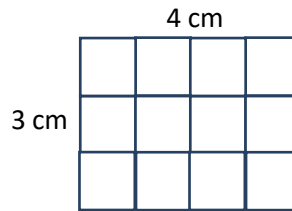
Area of rectangle = $6 \times 3 = 18\text{ cm}^2$

Area of triangle = half of 18 = $18 \div 2 = 9\text{cm}^2$

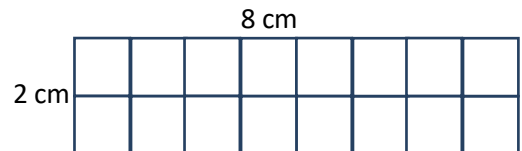
Exercise

Calculate the areas of these rectangles and squares

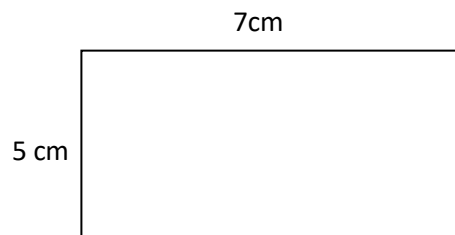
1)



2)



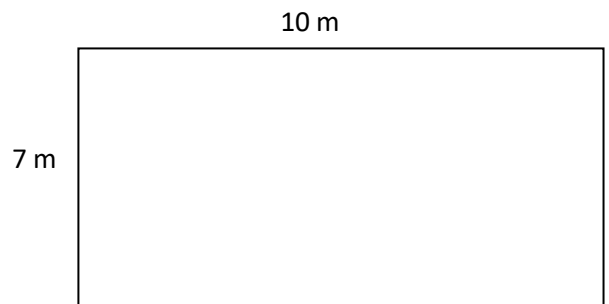
3)



4) This is a square.

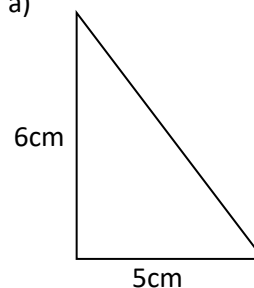


5)

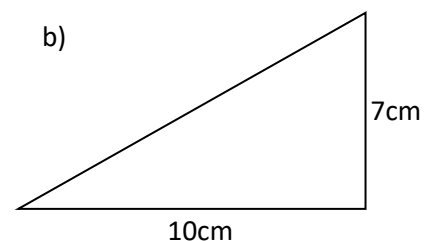


6) Calculate the areas of the two triangles below?

a)



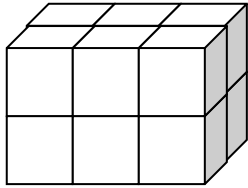
b)



Volume Revision

Examples

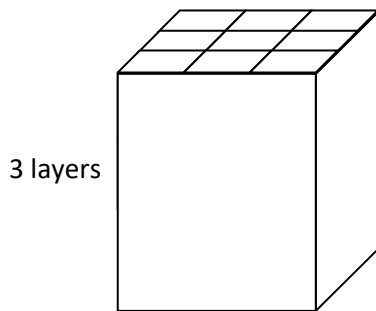
- 1) What is the volume of the cuboid below?



Count the cubes to find the volume. There are 6 cubes on the top and 6 cubes on the bottom.

Volume = 12cm^3

- 2) The cuboid below has 3 layers. What is the volume of the cuboid?

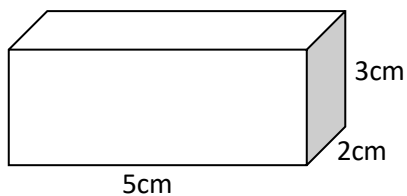


There are 9 cubes in the top layer.

There are 3 layers.

Volume = $9 \times 3 = 27\text{cm}^3$

- 3) Calculate the volume of the cuboid below.



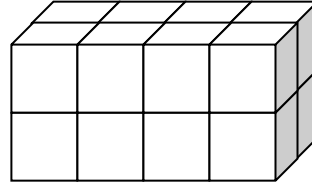
The top layer of the cuboid will have $5 \times 2 = 10$ cubes in it. The cuboid has 3 layers

Volume = $5 \times 2 \times 3 = 30\text{cm}^3$

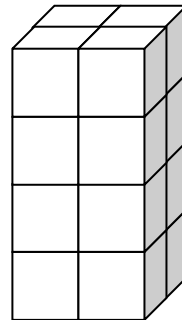
Exercise

Calculate the volumes of the cubes and cuboids below.

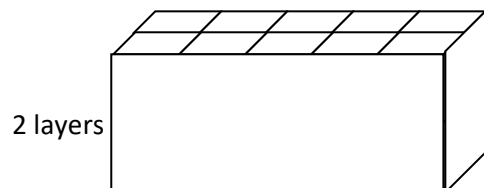
1)



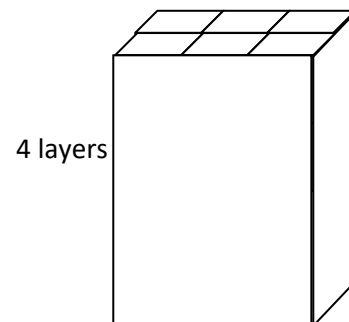
2)



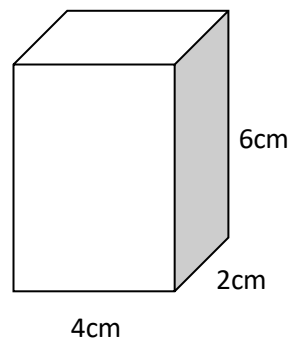
3)



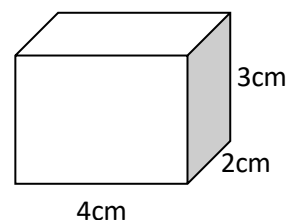
4)



5)



6)



Algebra Revision – Solving Equations

Examples

Solve the following equations

$$\begin{aligned} 1) \quad a + 5 &= 7 \\ a &= 7 - 5 \\ \underline{\underline{a &= 2}} \end{aligned}$$

$$\begin{aligned} 2) \quad c - 4 &= 10 \\ c &= 10 + 4 \\ \underline{\underline{c &= 14}} \end{aligned}$$

$$\begin{aligned} 3) \quad 2e &= 12 \\ e &= 12 \div 2 \\ \underline{\underline{e &= 6}} \end{aligned}$$

Exercise

Solve the following equations

$$\begin{aligned} 1) \quad a) \quad p + 5 &= 9 \\ b) \quad m + 4 &= 12 \\ c) \quad d + 15 &= 20 \\ d) \quad w + 8 &= 8 \\ e) \quad y + 50 &= 100 \end{aligned}$$

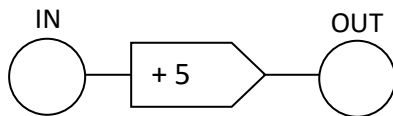
$$\begin{aligned} 2) \quad a) \quad q - 3 &= 10 \\ b) \quad h - 4 &= 11 \\ c) \quad x - 6 &= 1 \\ d) \quad n - 8 &= 0 \\ e) \quad d - 30 &= 50 \end{aligned}$$

$$\begin{aligned} 3) \quad a) \quad 2c &= 10 \\ b) \quad 2g &= 16 \\ c) \quad 3t &= 15 \\ d) \quad 4a &= 24 \\ e) \quad 10e &= 120 \end{aligned}$$

Algebra Revision – Number machines

Examples

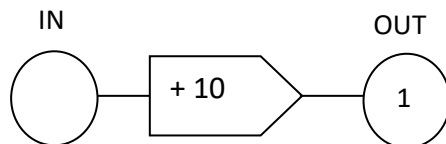
- 1) If the number 4 goes into this number machine what number would come out?



The number machine will add 5 to any number which goes into the number machine. So if you put in 4 the number machine will add 5.

OUT = 9

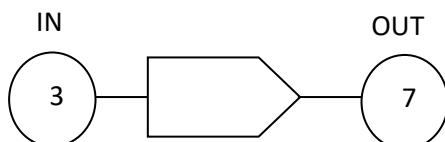
- 2) If the number 14 comes out of this number machine what number must have gone in?



The number machine will add 10 to any number which goes into the number machine. So what number do you add 10 to get 14?

IN = 4

- 3) If the number 3 goes into this number machine and 7 comes out what rule could the number machine have used?

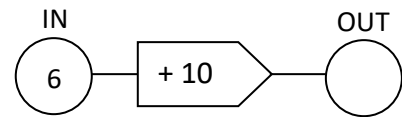


The number 3 goes into the machine. What can you do to the number 3 to make 7?

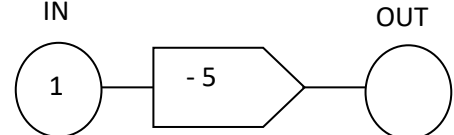
Rule = + 4

Exercise

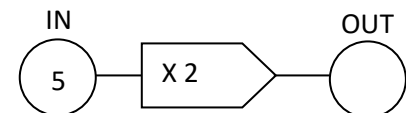
- 1) a) If the number 6 goes into this number machine what number would come out?



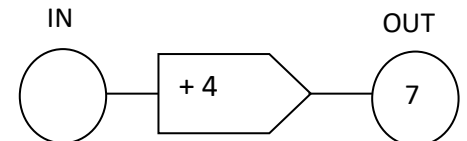
- b) If the number 15 goes into this number machine what number would come out?



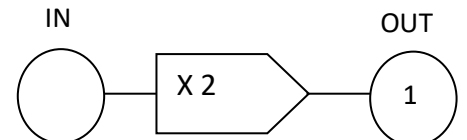
- c) If the number 5 goes into this number machine what number would come out?



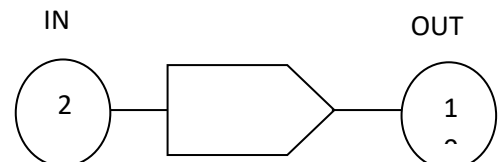
- 2) a) If the number 7 comes out of this number machine what number must have gone in?



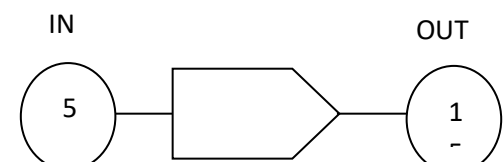
- b) If the number 16 comes out of this number machine what number must have gone in?



- 3) a) If the number 2 goes into this number machine and 10 comes out what rule could the number machine have used?



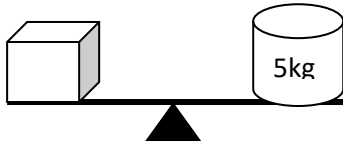
- b) If the number 5 goes into this number machine and 15 comes out what rule could the number machine have used?



Algebra Revision – Balancing

Example

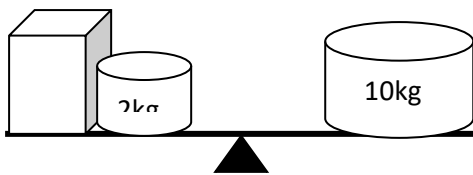
1) What does the box weigh?



The scales are balanced so the box must weigh the same as the other side.

Box = 5kg

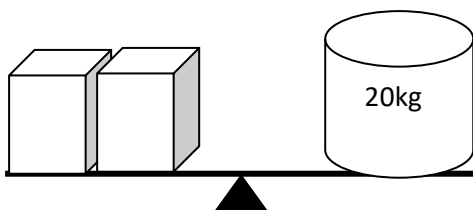
2) What does the box weigh?



The scales are balanced so the box and the 2kg weight add up to 10kg.

Box = 8kg

3) What does one box weigh?

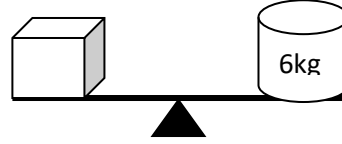


The scales are balanced. The two boxes weigh the same and together they weigh 20kg.

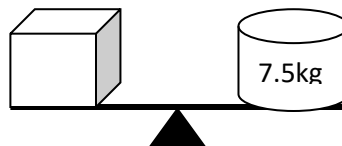
Box = 10kg

Exercise

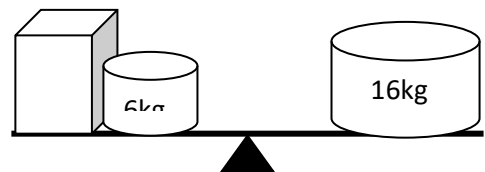
1) a) What does the box weigh?



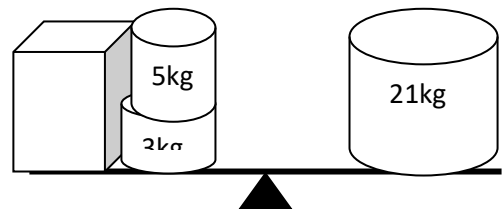
b) What does the box weigh?



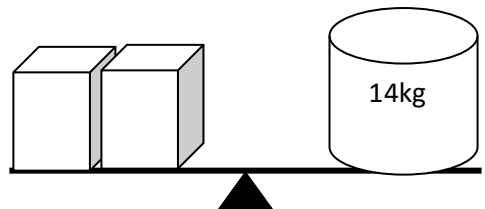
2) a) What does the box weigh?



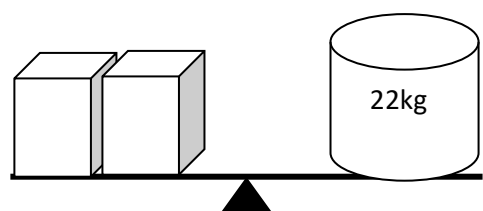
b) What does the box weigh?



3) a) What does one box weigh?



b) What does one box weigh?



Number – Conversions

Examples

- 1) 300cm is equivalent to how many metres?

100cm is equal to 1m

$$\underline{300\text{cm} = 3\text{m}}$$

- 2) 450cm is equivalent to how many metres?

100cm is equal to 1m

400cm is equal to 4m

$$\underline{450\text{cm} = (4\text{m } 50\text{cm}) = 4.5\text{m}}$$

- 3) 12m is equivalent to how many cm?

1m = 100cm

$$\underline{12\text{m} = 1200\text{cm}}$$

- 4) 6.4m is equivalent to how many cm?

1m = 100cm

6m = 600cm

$$\underline{6.4\text{m} = 640\text{cm}}$$

- 5) 3400g is equivalent to how many kg?

1000g = 1kg

3000g = 3kg

$$\underline{3400\text{g} = (3\text{kg } 400\text{g}) = 3.4\text{kg}}$$

- 6) 6070g is equivalent to how many kg?

1000g = 1kg

6000g = 6kg

$$\underline{6070\text{g} = (6\text{kg } 70\text{g}) = 6.07\text{kg}}$$

- 7) 5.7kg is equivalent to how many grams?

1kg = 1000g

5kg = 5000g

$$\underline{5.7\text{kg} = (5\text{kg } 700\text{g}) = 5700\text{g}}$$

- 8) 4.05kg is equivalent to how many grams?

1kg = 1000g

4kg = 4000g

$$\underline{4.05\text{kg} = 4050\text{g}}$$

Exercise

- 1) How many metres are the following amounts of cm equivalent to?

a) 400cm

b) 900cm

- 2) How many metres are the following amounts of cm equivalent to?

a) 340cm

b) 780cm

c) 542cm

- 3) How many cm are the following amounts of metres equivalent to?

a) 7m

c) 15m

- 4) How many cm are the following amounts of metres equivalent to?

a) 4.5m

c) 6.2m

- 5) How many kg are the following amounts of grams equivalent to?

a) 3000g

b) 9000g

c) 4500g

d) 8700g

- 6) How many kg are the following amounts of grams equivalent to?

e) 4090g

f) 7050g

g) 600g

- 7) How many grams are the following amounts of kgs equivalent to?

a) 3kg

b) 8kg

c) 4.5kg

d) 5.6kg

- 8) How many grams are the following amounts of kgs equivalent to?

a) 3.08kg

b) 4.05kg

c) 3.007kg