

PROPORTION

CONTENT DOMAIN REFERENCES:
R1, R3, R4


KS2 SATS

PRACTICE QUESTIONS BY TOPIC

1 100g of cheese costs 46p.

[Extra] Peter buys 250g of the cheese.

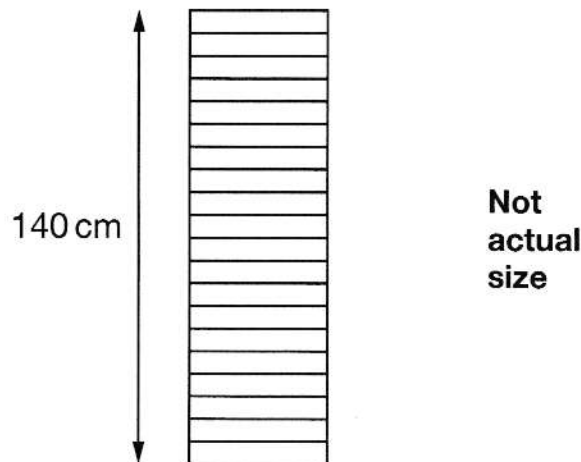
How much does he pay?

$\begin{array}{l} \div 2 \rightarrow 100\text{g COSTS } 46\text{p} \\ \div 2 \rightarrow 50\text{g COSTS } 23\text{p} \\ \times 5 \rightarrow 250\text{g COSTS } 115\text{p} \end{array}$  £ 1.15

[1 mark]

2 A stack of 20 identical boxes is 140 cm tall.

[2016]



Stefan takes **three** boxes off the top.

17 ARE LEFT!

How tall is the stack now?

Show your method

ONE BOX
 $\frac{140}{20} = \underline{7\text{cm}}$

$\begin{array}{r} 17 \\ \times 7 \\ \hline 119 \end{array}$

119cm

[2 marks]

3 A meal in a restaurant costs the same for each person.

[Extra] For **11** people the total cost is **£253**

What is the total cost for 12 people?

Show your method

ONE PERSON

$$\frac{253}{11} = \underline{\underline{£23}}$$
$$\begin{array}{r} 23 \\ \times 12 \\ \hline 46 \\ 230 \\ \hline 276 \end{array}$$

£276

[2 marks]

4

[2004]



Every **100g** of brown bread contains **6g** of fibre.

A loaf of bread weighs 800g and has 20 equal slices.

How much fibre is there in **one** slice?

Show your method

WHOLE LOAF

$$6 \times 8 = \underline{\underline{48}}$$

ONE SLICE

$$\frac{48}{20} = \frac{24}{10} = \underline{\underline{2.4}}$$

2.4 g

[2 marks]



Peanuts cost 60p for 100 grams.

$\times 3.5$

What is the cost of 350 grams of peanuts?

$$3.5 \times 60 = 35 \times 6$$

$$\begin{array}{r} 35 \\ \times 6 \\ \hline 210 \\ \hline \end{array}$$

↓

£2.10

Raisins cost 80p for 100 grams.

Jack pays £2 for a bag of raisins.

$$\frac{200}{80} = \frac{20}{8} = \frac{10}{4} = \frac{5}{2} = \underline{\underline{2.5}}$$

How many grams of raisins does he get?

Show your method

$$2.5 \times 100 = \underline{\underline{250}}$$

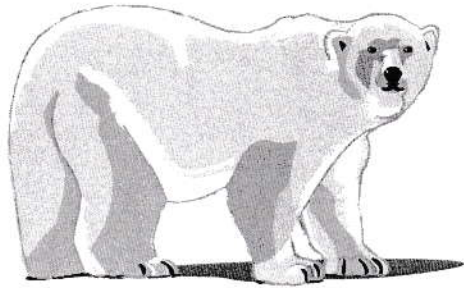
250g

[4 marks]

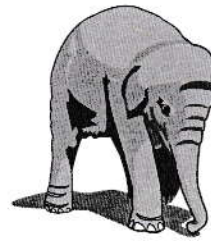
6

In a zoo, the adult polar bear weighs three times more than the baby elephant.

[Extra]



polar bear



elephant

$$3E + E = 4E$$

↑
TOTAL
WEIGHT

Together they weigh 700 kilograms.

How much does the polar bear weigh?

Show your method

$$4E = 700$$

$$E = \frac{700}{4} = 175$$

$$\begin{array}{r} \text{POLAR BEAR. } 175 \\ \times 3 \\ \hline 525 \end{array}$$

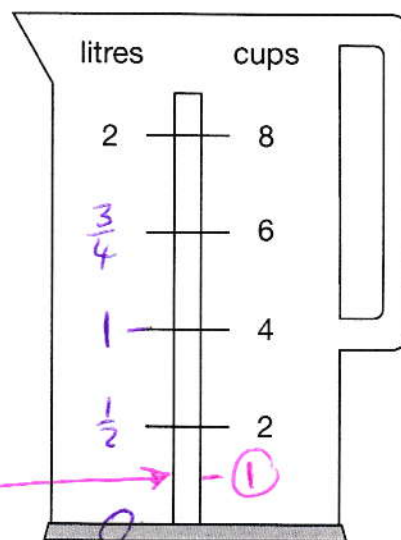
525 kg

[2 marks]

7

Nisha's kettle holds 2 litres of water.

[2008]



How many millilitres are equal to 1 cup?

$\frac{1}{4}$ OF A LITRE

250 ml

[1 mark]

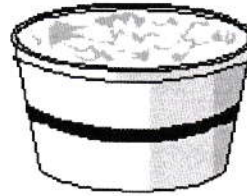
8

Cream cheese costs £4.50 for 1kg.

[Extra]

Robbie buys 600 grams of cream cheese.

0.6 kg



How much does he pay?

Show your method

$$450 \times 0.6 = 45 \times 6$$

$$\begin{array}{r} 45 \\ \times 6 \\ \hline 270 \\ 3 \end{array}$$

£2.70

[2 marks]

9

The label on a pot of yoghurt shows this information.

[Extra]

Yoghurt	
	125g
Each 125 g provides	
Energy	430 kJ
Protein	4.5 g
Carbohydrate	11.1g
Fat	4.5 g

$$\div 1.25$$

How many grams of protein does 100g of yoghurt provide?

Show your method

$$\frac{4.5}{1.25} = \frac{450}{125} = \frac{90}{25} = \frac{18}{5} = \frac{36}{10} = \underline{\underline{3.6}}$$

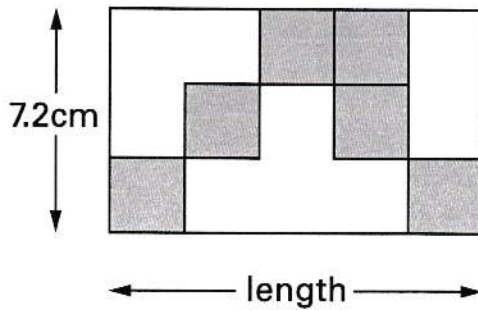
3.6

[2 marks]

10

Here is a rectangle with six identical shaded squares inside it.

[2004]



Not actual size

The width of the rectangle is 7.2 centimetres.

Calculate the **length** of the rectangle.

Show your method

ONE SIDE OF SQUARE

$$\frac{7.2}{3} = \underline{\underline{2.4\text{cm}}}$$

LENGTH

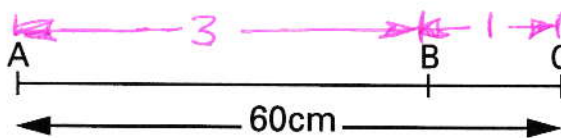
$$2.4 \times 5 = \underline{\underline{12\text{cm}}}$$

12 cm

[2 marks]

11

[2002]



[TOTAL = 4]

Not drawn to scale

The distance from **A to B** is three times as far as from **B to C**.

The distance from **A to C** is 60 centimetres.

Calculate the distance from **A to B**.

Show your method

$$\frac{60}{4} = \underline{\underline{15}} \longrightarrow 3 \times 15 = \underline{\underline{45}}$$

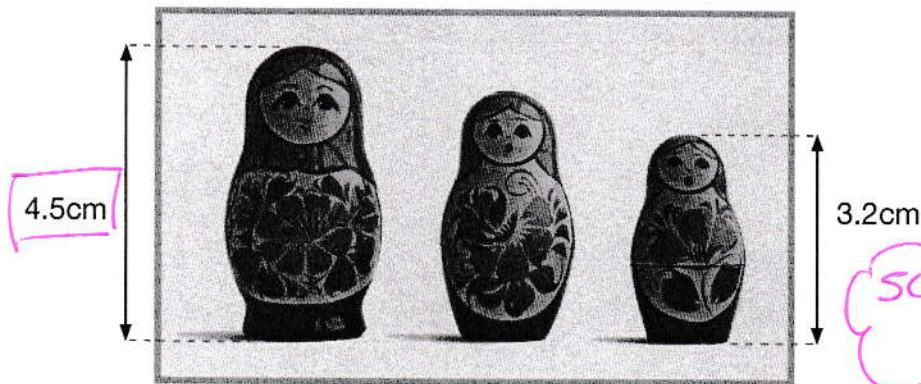
45 cm

[2 marks]

12

This photograph shows three Russian dolls.

[Extra]

The real-life height of the **largest** Russian doll is **13.5 cm**What is the real-life height of the **smallest** Russian doll?

Show your method

$$\frac{13.5}{4.5} = \underline{\underline{3}} \longrightarrow 3 \times 3.2 = \underline{\underline{9.6}}$$

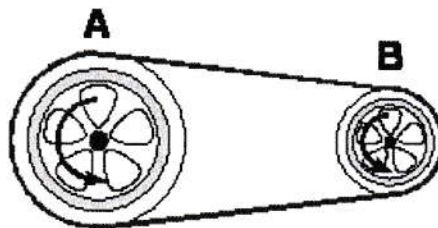
9.6 cm

[2 marks]

13

A and B are two chain wheels on a bike.

[Extra]

For every **2 complete turns** that wheel **A** makes, wheel **B** makes **5 complete turns**.If wheel **A** makes **150 turns**, how many turns will wheel **B** make?

Show your method

$$\frac{150}{2} = \underline{\underline{75}} \longrightarrow 75 \times 5 = \underline{\underline{375}}$$

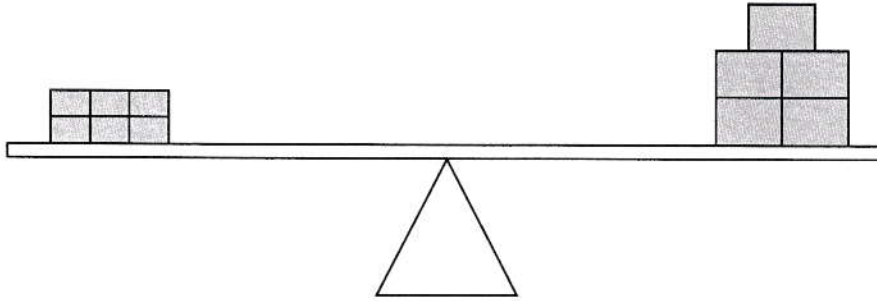
375

[2 marks]

14

6 small bricks have the same mass as 5 large bricks.

[2016]



The mass of one small brick is 2.5 kg.

What is the mass of one large brick?

Show your method

$$6 \times 2.5 = 15 \rightarrow \frac{15}{5} = \underline{\underline{3}}$$

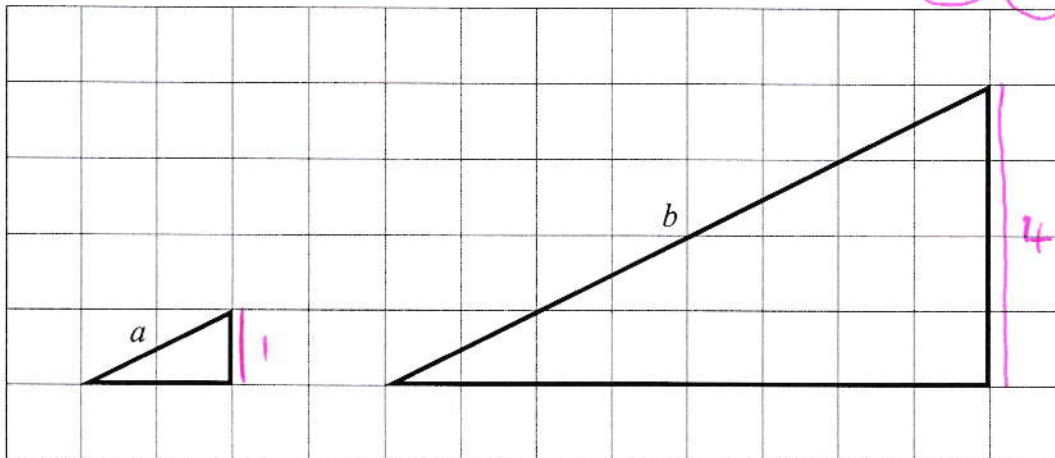
3 kg

[2 marks]

15

Here are two similar right-angled triangles.

[2017]

Write the ratio of side a to side b .

$$a:b = \boxed{1 : 4}$$

[1 mark]

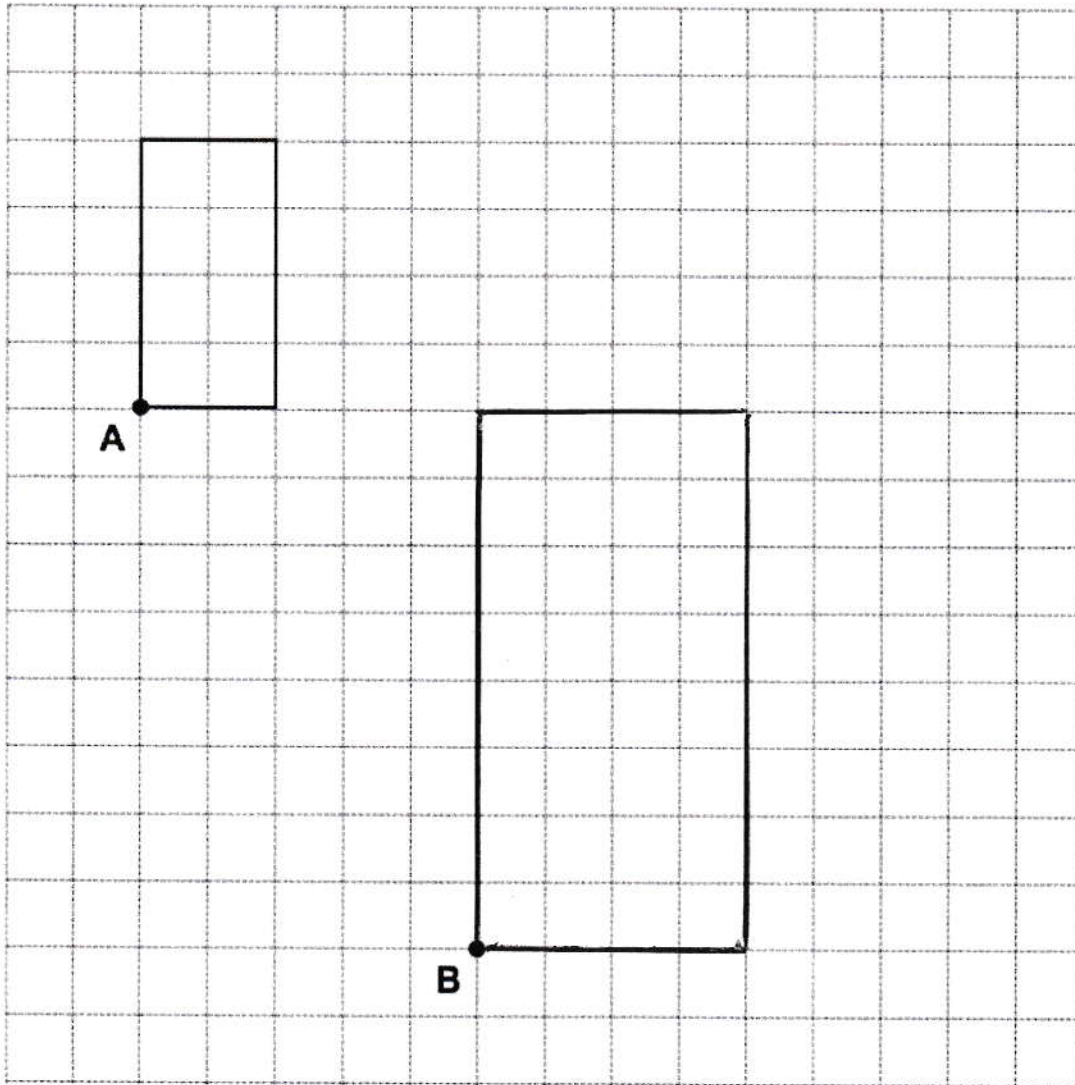
16

The rectangle is translated from **A** to **B** and **enlarged** by a **scale factor of 2**

[Extra]

Draw the **enlarged rectangle** on the grid.

Use a ruler.



[2 marks]

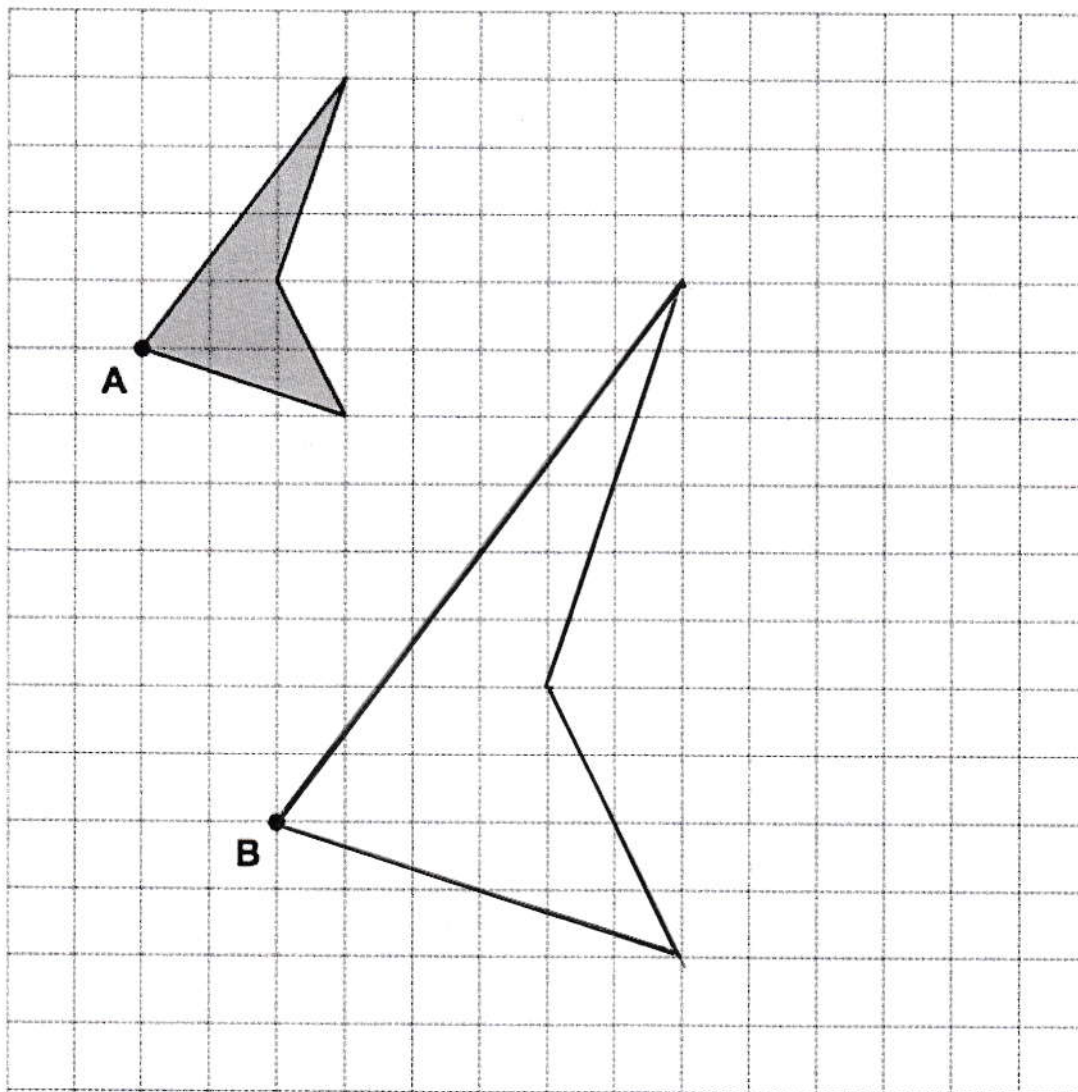
17

The shaded shape is translated from **A** to **B** and **enlarged** by a **scale factor of 2**

[2000]

Draw the **enlarged** shape on the grid.

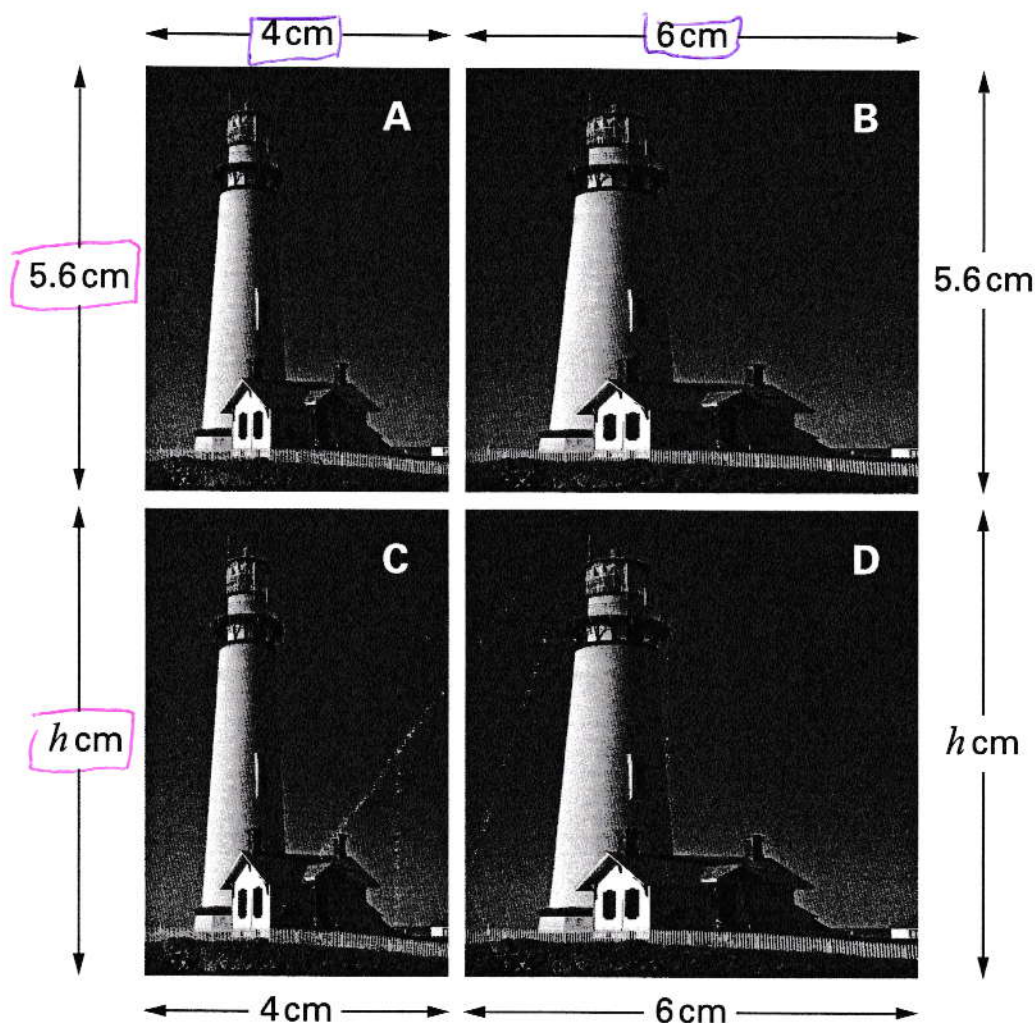
Use a ruler.



[2 marks]

Here are four pictures, A, B, C and D. They are not to scale.

[Extra]



Picture A can be stretched horizontally to make picture B.

Show that the horizontal factor of enlargement is 1.5

$$\text{SCALE FACTOR} = \frac{6}{4} = \underline{\underline{1.5}}$$

Picture A can be stretched vertically to make picture C.

The vertical factor of enlargement is 1.25

What is the height, h , of picture C?

$$5.6 \times 1.25 \rightarrow \begin{array}{r} 1.25 \\ \times 5.6 \\ \hline 750 \\ 6250 \\ \hline 7000 \end{array}$$

7 cm

[2 marks]