

FULL MODEL ANSWERS

Q1. NON-CALCULATOR

Write 180 minutes in hours.

$$60 \text{ minutes} = 1 \text{ hour}$$

$$180 \text{ minutes} = \div 60$$

..... 3 hours

(Total for question = 1 mark)

Q2. NON-CALCULATOR

Work out the difference, in minutes, between 1 hour 25 minutes and $1\frac{1}{4}$ hours.

$$1\text{h}25\text{m} - 1\text{h}15\text{m}$$

$$1\frac{1}{4} \text{ hours} = 1\text{h}15\text{m}$$

..... 10 minutes

(Total for question = 2 marks)

Q3. NON-CALCULATOR

Change 530 centimetres into metres.

$$100\text{cm} = 1\text{m}$$

$$530\text{cm} = \div 100$$

..... 5.3 metres

(Total for question is 1 mark)

Q4. NON-CALCULATOR

(a) Change 365 cm into metres.

$$100\text{cm} = 1\text{m}$$

$$365\text{cm} = \div 100$$

..... 3.65 m

(1)

(b) Change 2.7 kg into grams.

$$1000\text{g} = 1\text{Kg}$$

$$= 2.7\text{kg} \times 1000$$

..... 2700 g

(1)

(Total for question = 2 marks)

Q5. NON-CALCULATOR

The length of a line is x centimetres.

Write down an expression, in terms of x, for the length of the line in millimetres.

$$10\text{mm} = 1\text{cm}$$

$$= x\text{ cm} \times 10$$

..... 10x

(Total for question = 1 mark)

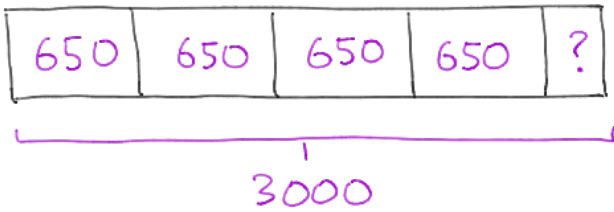
Q6. NON-CALCULATOR

Prasha has five blocks of wood.

3000g

The total weight of all five blocks of wood is 3 kilograms.
4 of the blocks of wood each have a weight of 650 grams.

Work out the weight, in grams, of the other block of wood.



$$\begin{array}{r} 650 \\ \times 4 \\ \hline 2600 \end{array}$$

$$3000 - 2600$$

..... 400 grams
 (Total for question = 3 marks)

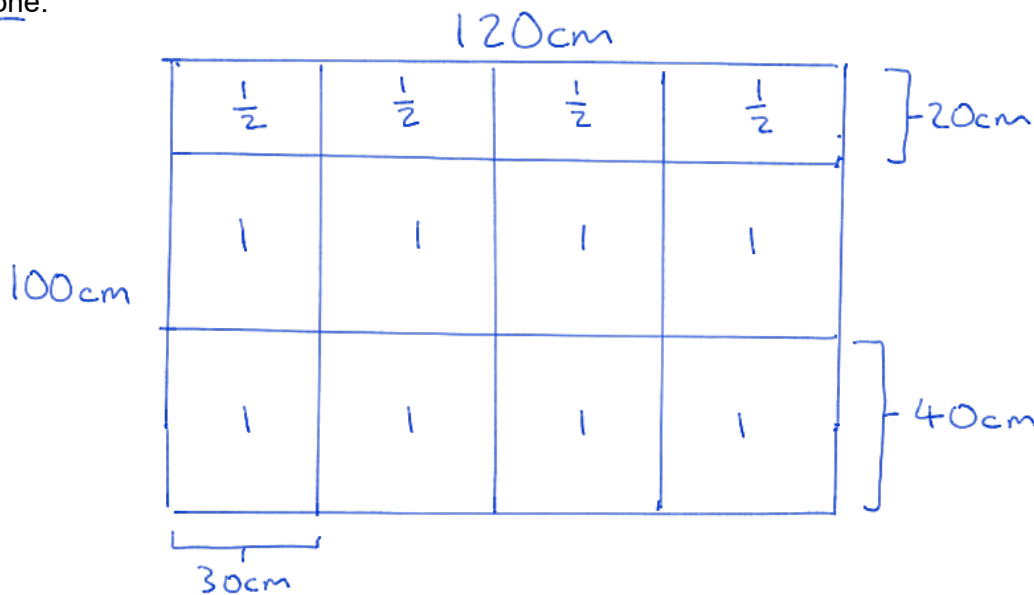
Q7. NON-CALCULATOR

Carpet tiles are going to be used to cover a floor.

120cm by 100cm

The floor is a 1200mm by 1000mm rectangle.
 Each carpet tile is a 40cm by 30cm rectangle.

Exactly 10 carpet tiles can be used to cover the floor completely. Show in a labelled sketch how this can be done.



(Total for question = 3 marks)

Q8. NON-CALCULATOR

An American airline has a maximum size for bags on its planes.
The diagram shows the maximum dimensions.

Chris has a bag.

It has
height 50 cm
width 40 cm
depth 20 cm

1 inch = 2.54 cm



Can Chris take this bag on the plane? You must show your working.

<p>Max Height</p> 22×2.54 $\begin{array}{r} 254 \\ \times 22 \\ \hline 508 \\ 5080 \\ \hline 5588 \\ \hline 55.88\text{cm} \end{array}$	<p>Max Width</p> 14×2.54 $\begin{array}{r} 254 \\ \times 14 \\ \hline 1016 \\ 2540 \\ \hline 3556 \\ \hline 35.56\text{cm} \end{array}$	<p>Max Depth</p> 9×2.54 $\begin{array}{r} 254 \\ \times 9 \\ \hline 2286 \\ \hline 22.86\text{cm} \end{array}$
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The bag's height is ok, but the width and depth are too big.

(Total for question is 3 marks)

Q9. NON-CALCULATOR

A car travels for 18 minutes at an average speed of 72 km/h.

(a) How far will the car travel in these 18 minutes?

$$D = S \times T$$

$$= 72 \times \frac{18}{60} \div 6$$

$$= 72 \times \frac{3}{10}$$

..... 21.6 km
(2)

$$\begin{array}{r} 72 \\ \times 3 \\ \hline 216 \end{array}$$

David says,

"72 kilometres per hour is faster than 20 metres per second."

(b) Is David correct? You must show how you get your answer.

$\begin{array}{r} 12 \\ \times 60 \\ \hline 00 \\ 720 \\ \hline 720 \end{array}$	20m/s $= 1200\text{m/min} \quad \downarrow \times 60$ $= 1.2\text{km/min} \quad \downarrow \div 1000$ $= 72\text{km/hr} \quad \downarrow \times 60$	<p>72km/h is exactly the same as 20m/s. David is wrong.</p>
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(2)

(Total for question = 4 marks)