

Name: \_\_\_\_\_

GCSE (1 – 9)

## Scale Drawings

### Instructions

- Use **black** ink or ball-point pen.
- Answer all questions.
- Answer the questions in the spaces provided  
– *there may be more space than you need.*
- Diagrams are **NOT** accurately drawn, unless otherwise indicated.
- You must **show all your working out.**

### Information

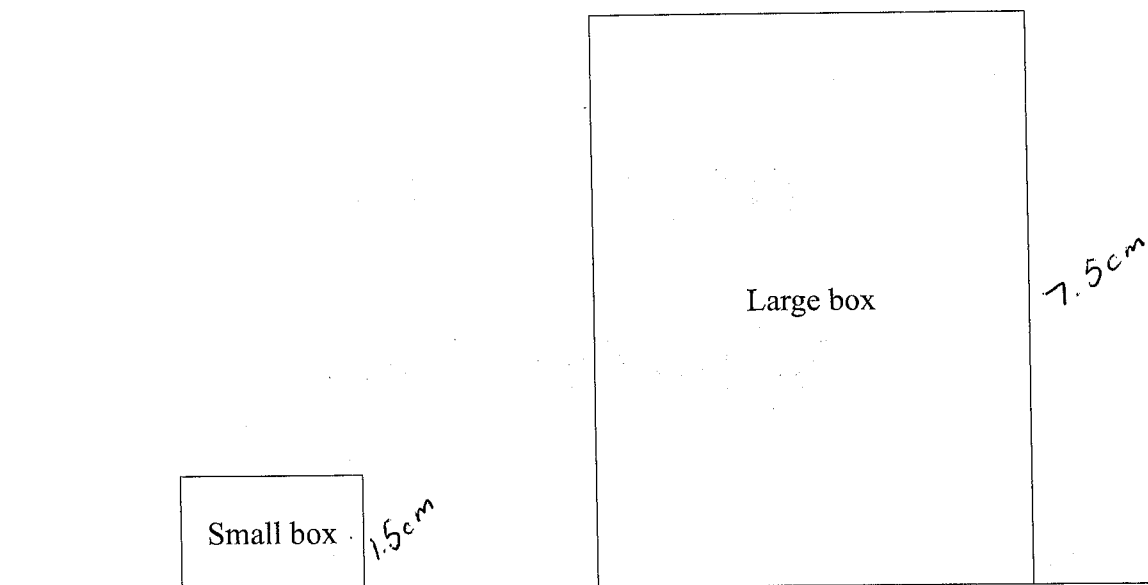
- The marks for each question are shown in brackets  
– *use this as a guide as to how much time to spend on each question.*

### Advice

- Read each question carefully before you start to answer it.
- Keep an eye on the time.
- Try to answer every question.
- Check your answers if you have time at the end

1

The accurate scale drawing shows a small box and a large box



The small box has a real height of 20 centimetres.

Find an estimate for the real height of the large box.

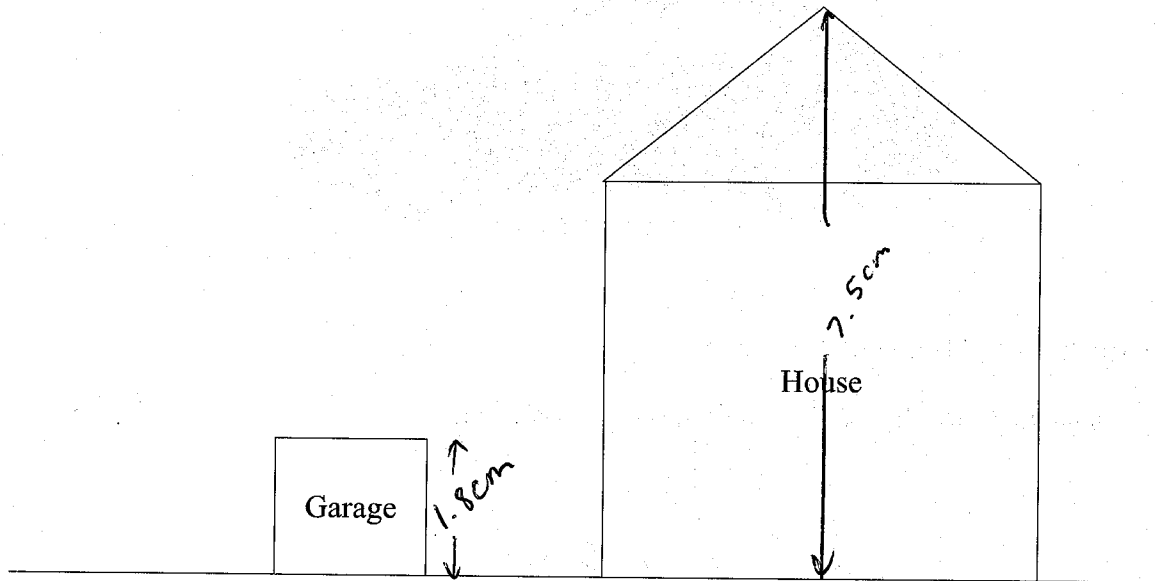
$$\begin{array}{rcl} 1.5 \text{ cm} & = & 20 \text{ cm} \\ \times 5 & & \times 5 \quad [5 \text{ times taller}] \\ \hline 7.5 \text{ cm} & = & 100 \text{ cm} \\ & & \text{OR } 1 \text{ m} \end{array}$$

..... 100 ..... cm

(Total for question 1 is 2 marks)

2

The accurate scale drawing shows a garage and a house.



The garage has a real height of 2.4 metres.

Find an estimate for the real height, in metres, of the house.

$$1.8 \text{ cm} = 2.4 \text{ m}$$

$\times \frac{4}{3}$

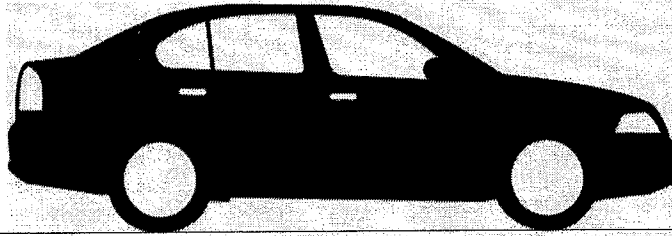
$$7.5 \text{ cm} = 10 \text{ m}$$

$$\left[ \frac{7.5 \times 4}{3} = \frac{30}{3} = 10 \text{ m} \right]$$

.....10..... metres  
 [ACCEPT 9.6 to 10.8]  
 (Total for question 2 is 2 marks)

3

The accurate scale drawing shows a car.



The car has a real height of 1.5 metres.

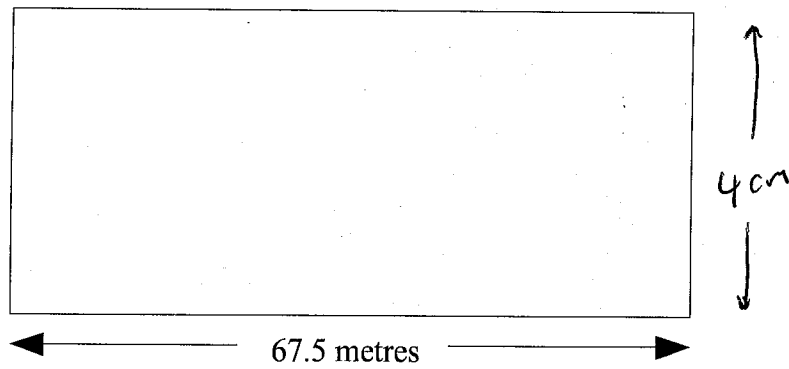
Find an estimate for the real length, in metres, for the car.

$$\begin{array}{c} \div 2 \\ \curvearrowright \\ 3 \text{ cm} = 1.5 \text{ m} \end{array}$$

$$8.8 \text{ cm} = 4.4 \text{ m}$$

..... 4.4 ..... metres  
ACCEPT 4.5  
(Total for question 3 is 2 marks)

- 4 The accurate scale drawing shows a field.



The field has a real length of 67.5 metres

Find an estimate for the real perimeter of the field.

$$9 \text{ cm} = 67.5 \text{ m}$$

$$\div 9 \qquad \div 9$$

$$1 \text{ cm} = 7.5 \text{ m}$$

$$4 \text{ cm} = 30 \text{ m}$$

$$\begin{aligned} \text{perimeter} &= 2(67.5) + 2(30) \\ &= 195 \end{aligned}$$

.....195..... m

(Total for question 4 is 3 marks)

5

The accurate scale drawing shows three towns, Town A, Town B and Town C.

Town A

X

X Town B

X

Town C

The scale is 1:50000

a) Find the real distance between Town A and Town B, in kilometres.

6.5 cm

$$\begin{aligned} 6.5 \times 50000 &= 325000 \text{ cm} \\ &= 3250 \text{ m} \\ &= 3.25 \text{ km} \end{aligned}$$

..... 3.25 ..... km  
(3)

b) Find the real distance between Town A and Town C, in kilometres.

5 cm

$$\begin{aligned} 5 \times 50000 &= 250000 \text{ cm} \\ &= 2.5 \text{ km} \end{aligned}$$

..... 2.5 ..... km  
(3)

(Total for question 5 is 6 marks)

6 A model car has the length of 8cm.

The scale of the model is 1:50

Work out the length of the real car.

Give your answer in metres.

$$8 \times 50 = 400 \text{ cm}$$

.....<sup>4</sup>.....m

(Total for question 6 is 2 marks)

7 A map has the scale of 1:50000

The distance between two points on the map is 10 cm.

Work out the real distance between the two points. Give your answer in kilometres.

$$\begin{aligned} 10 \times 50000 &= 500000 \text{ cm} \\ &= 5000 \text{ m} \\ &= 5 \text{ km} \end{aligned}$$

.....<sup>5</sup>.....km

(Total for question 7 is 3 marks)

8 A model plane has the length of 20cm.

The scale of the model is 1:380

Work out the length of the real plane.

Give your answer in metres.

$$\begin{aligned}20 \times 380 &= 7600 \text{ cm} \\ &= 76 \text{ m}\end{aligned}$$

.....76.....m

(Total for question 8 is 2 marks)

9 A map has the scale of 1:75000

The distance between two points on the map is 12 cm.

Work out the real distance between the two points. Give your answer in kilometres.

$$\begin{aligned}12 \times 75000 &= 900000 \text{ cm} \\ &= 9000 \text{ m} \\ &= 9 \text{ km}\end{aligned}$$

.....9.....km

(Total for question 9 is 3 marks)