3.11 Scale Drawings: 1-hour Pack

EDEXCEL 1MA1 · Calculator allowed · about 60 minutes

Total Marks

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 A scale drawing uses 1 cm to represent 2 m. On the drawing a fence is 9.5 cm long. Work out the actual length of the fence in metres.

(Total for Question 1 is 1 mark)

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2 A scale drawing has a scale of 1:300. On the drawing, a driveway is 40 mm long. Work out the real length of the driveway, in metres.

(Total for Question 2 is 1 mark)

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3 A map uses scale 1:50 000. Two villages are 3.6 cm apart on the map. Work out the actual distance between the villages in kilometres. Give your answer to 2 decimal places.

(Total for Question 3 is 2 marks)

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4 A scale drawing uses 1 cm = 0.5 m. A real pond is 3.75 m long. Work out the length of the pond on the drawing in centimetres. Give your answer to 1 decimal place.

(Total for Question 4 is 2 marks)

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5 A scale drawing of a room uses the scale 1:20. On the drawing the room is 25 cm long. Work out the actual length of the room in metres.

(Total for Question 5 is 2 marks)

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6 A scale drawing of a swimming pool is made using a scale of 1 : 75. The pool is 22.5 m long in real life. Work out the length of the pool on the scale drawing, in centimetres.

(Total for Question 6 is 3 marks)

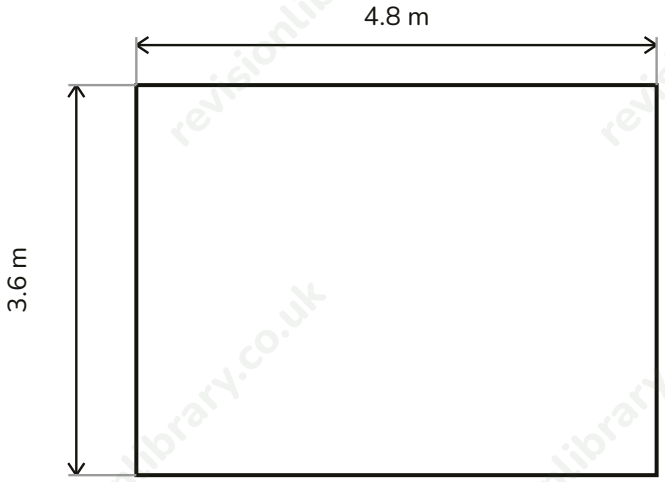
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7 A scale drawing of a nature reserve is made using a scale of 1 : 20000. A straight path is drawn 7.5 cm long. Work out the real length of the path, giving your answer in kilometres.

(Total for Question 7 is 3 marks)

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8 A rectangular kitchen measures 4.8 m by 3.6 m in real life. A scale drawing is made using a scale of 1 : 60.



Scale 1 : 60

(a) Work out the dimensions of the kitchen on the scale drawing, in centimetres. **(3)**

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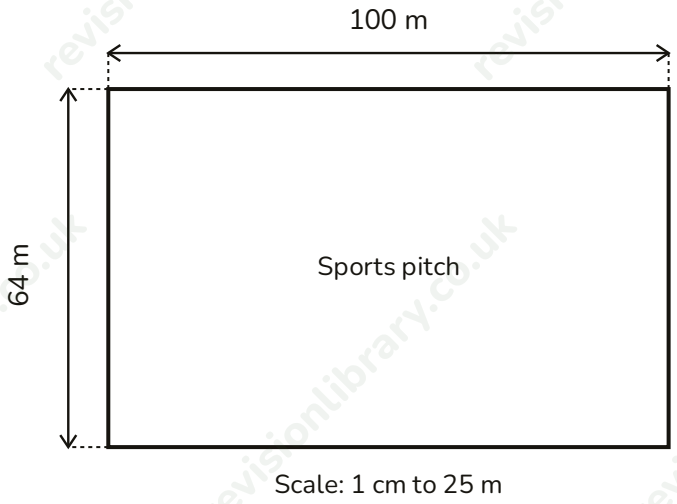
(b) Work out the area of the kitchen on the scale drawing, in cm^2. **(1)**

.....

(Total for Question 8 is 4 marks)

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9 A scale drawing of a rectangular sports pitch is made using a scale of 1 cm to 25 m. In real life, the pitch is 100 m long and 64 m wide.



(a) Work out the length and width of the pitch on the scale drawing, in centimetres. **(2)**

.....

(b) Work out the perimeter of the pitch on the scale drawing, in centimetres. **(2)**

.....

(Total for Question 9 is 4 marks)

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10 A map has a scale of 1 : 40000. Two points are 3.5 km apart in real life. Work out the distance between the points on the map, in centimetres. Give your answer correct to 1 decimal place.

(Total for Question 10 is 3 marks)

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11 A plan of a classroom is drawn to a scale of 1 cm to 4 m. The classroom is 14 m long and 16 m wide.
Work out the length and width of the plan.

(Total for Question 11 is 3 marks)

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12 The scale of a map is 1:100000. Two villages are 14.7 cm apart on the map.
Work out the real distance between the villages in kilometres.

(Total for Question 12 is 3 marks)

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13 A plan of a classroom is drawn to a scale of 1 cm to 0.5 m. The classroom is 3 m long and 15 m wide.
Work out the length and width of the plan.

(Total for Question 13 is 3 marks)

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14 A model train is built to a scale of 1:20. The real vehicle is 1.7 m long.
Work out the length of the model in centimetres.

(Total for Question 14 is 3 marks)

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15 A plan of a car park is drawn to a scale of 1 cm to 2.5 m. The car park is 3 m long and 18 m wide.

Work out the length and width of the plan.

(Total for Question 15 is 3 marks)

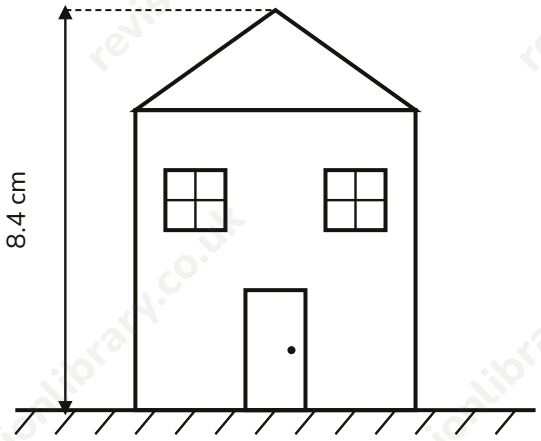
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16 The scale of a map is 1:100000. Two villages are 9.7 cm apart on the map.
Work out the real distance between the villages in kilometres.

(Total for Question 16 is 3 marks)

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17 A scale drawing of a building is made using a scale of 1 : 250. On the drawing, the height of the building is 8.4 cm.



Scale 1 : 250

(a) Work out the real height of the building, in metres. **(2)**

.....

(b) A window on the real building has a width of 1.5 m. A different scale drawing of just the window uses a scale of 1 : 20. Work out the width of the window on this second drawing, in centimetres. **(2)**

.....

(Total for Question 17 is 4 marks)

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Mark scheme · 3.11 Scale Drawings: 1-hour Pack

Question 1

19 m cao **B1**

Answer: 19 m

Question 2

12 m cao **B1**

Answer: 12 m

Question 3

convert map distance to actual: 3.6 cm x 50000 = 180000 cm = 1800 m or 1.8 km (method) **M1**

1.80 km to 2 dp cao **A1**

Answer: 1.80 km (3.6 cm x 50 000 = 180 000 cm = 1800 m = 1.80 km)

Question 4

divide actual length by scale: 3.75 m / 0.5 m per cm = 7.5 cm (method) **M1**

7.5 cm cao **A1**

Answer: 7.5 cm (3.75 m / 0.5 m per cm = 7.5 cm)

Question 5

convert drawing length to actual: 25 cm x 20 = 500 cm (method) **M1**

5 m cao **A1**

Answer: 5 m (25 cm x 20 = 500 cm = 5 m)

Question 6

22.5 m = 2250 cm **M1**

2250 / 75 **M1**

30 cm cao **A1**

Answer: 30 cm

Question 7

7.5 x 20000 (= 150000) **M1**

150000 cm converted towards km **M1**

1.5 km cao **A1**

Answer: 1.5 km

Question 8

(a) 480 / 60 or 360 / 60 **M1**

(a) 8 cm **A1**

(a) 6 cm **A1**

(a) Answer: 8 cm by 6 cm

(b) 48 cm^2 ft from part (a) **B1**

(b) Answer: 48 cm^2

Question 9

(a) 100 / 25 and 64 / 25 **M1**

(a) 4 cm and 2.56 cm both correct **A1**

(a) Answer: 4 cm by 2.56 cm

(b) 2 x (4 + 2.56) ft from part (a) **M1**

(b) 13.12 cm ft/cao **A1**

(b) Answer: 13.12 cm

Question 10

3.5 km = 350000 cm **M1**

350000 / 40000 (= 8.75) **M1**

awrt 8.8 cm **A1**

Answer: 8.8 cm

Question 11

divides a length by 4 **M1**

3.5 cm **A1**

4 cm **A1**

Answer: 3.5 cm by 4 cm

Question 12

14.7 x 100000 **M1**

converts cm to km (divide by 100000) **M1**

14.7 km **A1**

Answer: 14.7 km

Question 13

divides a length by 0.5 **M1**

6 cm **A1**

30 cm **A1**

Answer: 6 cm by 30 cm

Question 14

1.7 m = 170 cm **M1**

divides by 20 **M1**

8.5 cm **A1**

Answer: 8.5 cm

Question 15

divides a length by 2.5 **M1**

1.2 cm **A1**

7.2 cm **A1**

Answer: 1.2 cm by 7.2 cm

Question 16

9.7 x 100000 **M1**

converts cm to km (divide by 100000) **M1**

9.7 km **A1**

Answer: 9.7 km

Question 17

(a) 8.4 x 250 (= 2100) **M1**

(a) 21 m cao **A1**

(a) Answer: 21 m

(b) 1.5 m = 150 cm, then 150 / 20 **M1**

(b) 7.5 cm cao **A1**

(b) Answer: 7.5 cm

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