



3.11F Scale Drawings: Foundation Tier Practice

EDEXCEL Edexcel 1MA1 · Calculator allowed · about 50 minutes

Total Marks

Name: _____ Date: ____ / ____ / ____

Answer ALL questions. Show all your working.

- 1** A plan of a garden uses scale 1 cm on the plan = 2 m in the garden. On the plan a path is 3 cm long. Work out the actual length of the path in metres.

(Total for Question 1 is 1 mark)

- 2** A toy truck is drawn at scale 1:25. The drawing shows the truck is 8 cm long. Work out the actual length of the truck in centimetres.

(Total for Question 2 is 1 mark)

- 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)

- 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)

5 A classroom floor is to be drawn on paper at a scale of 1:100. The actual floor measures 6.2 m by 4.0 m.

(a) Work out the length and width on the drawing in centimetres.

(b) Work out the area of the floor on the drawing in square centimetres. Give your answer to 1 decimal place.

(a) Work out the length and width on the drawing in centimetres. (2)

(b) Work out the area of the floor on the drawing in square centimetres. Give your answer to 1 decimal place. (1)

(Total for Question 5 is 3 marks)

6 A model of a lorry is made at scale 1:40. The real lorry is 12.0 m long.

(a) Work out the length of the model in centimetres.

(b) The model is placed on a drawing with scale 1 cm = 0.5 m. Work out the length of the lorry on the drawing in centimetres. Show how you get each step.

(a) Work out the length of the model in centimetres. (1)

(b) Work out the length of the lorry on the drawing in centimetres. (2)

(Total for Question 6 is 3 marks)

7 A student draws a plan of a rectangular field using scale 1:250. On the plan the length is 8.4 cm and the width is 3.2 cm.

Work out the actual perimeter of the field in metres. Give your answer to the nearest metre.

(Total for Question 7 is 3 marks)

8 A new park is to be drawn on a sheet of paper at scale $1 \text{ cm} = 2 \text{ m}$. On the drawing two points are 9.5 cm apart.

(a) Work out the actual distance between the points in metres.

(b) A pupil measures the distance in the real park and finds it is 19.1 m. Calculate the difference between the measured distance and the scaled actual distance. Give your answer in metres and in centimetres.

(a) Work out the actual distance between the points in metres. (2)

(b) Calculate the difference between the measured distance and the scaled actual distance. Give your answer in metres and in centimetres. (2)

(Total for Question 8 is 4 marks)

9 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 9 is 2 marks)

Mark scheme · 3.11F Scale Drawings: Foundation Tier Practice

Question 1

- **B1** 6 m cao
- **Answer: 6 m** ($3 \text{ cm} \times 2 \text{ m/cm} = 6 \text{ m}$)

Question 2

- **B1** 200 cm cao
- **Answer: 200 cm** ($8 \text{ cm} \times 25 = 200 \text{ cm}$)

Question 3

- **M1** convert map distance to actual: $3.6 \text{ cm} \times 50000 = 180000 \text{ cm} = 1800 \text{ m}$ or 1.8 km (method)
- **A1** 1.80 km to 2 dp cao
- **Answer: 1.80 km** ($3.6 \text{ cm} \times 50\,000 = 180\,000 \text{ cm} = 1800 \text{ m} = 1.80 \text{ km}$)

Question 4

- **M1** divide actual length by scale: $3.75 \text{ m} / 0.5 \text{ m per cm} = 7.5 \text{ cm}$ (method)
- **A1** 7.5 cm cao
- **Answer: 7.5 cm** ($3.75 \text{ m} / 0.5 \text{ m per cm} = 7.5 \text{ cm}$)

Question 5

- (a) **M1** convert metres to drawing cm: $6.2 \text{ m} = 620 \text{ cm}$ then divide by 100, and $4.0 \text{ m} = 400 \text{ cm}$ then divide by 100 (method)
- (a) **A1** length 6.2 cm and width 4.0 cm cao
- (a) **Answer: Length on drawing 6.2 cm, width on drawing 4.0 cm**
- (b) **A1** 24.8 cm^2 cao
- (b) **Answer: 24.8 cm^2** ($6.2 \times 4.0 = 24.8$)

Question 6

- (a) **B1** 30 cm cao
- (a) **Answer: 30 cm**
- (b) **M1** use scale $1 \text{ cm} = 0.5 \text{ m}$ so drawing length = $12.0 / 0.5 = 24 \text{ cm}$ (method)
- (b) **A1** 24 cm cao
- (b) **Answer: 24 cm**

Question 7

- **M1** convert drawing cm to actual cm: length $8.4 \times 250 = 2100 \text{ cm}$, width $3.2 \times 250 = 800 \text{ cm}$ (or 21.00 m and 8.00 m) (method)
- **M1** perimeter method: $2 \times (21.00 + 8.00) = 58.00 \text{ m}$ (method)
- **A1** 58 m cao to nearest metre
- **Answer: 58 m** (length 21.00 m, width 8.00 m, perimeter = $2 \times (21.00 + 8.00) = 58.00 \text{ m}$)

Question 8

- (a) **M1** convert drawing cm to actual metres: $9.5 \text{ cm} \times 2 \text{ m per cm} = 19.0 \text{ m}$ (method)
- (a) **A1** 19.0 m cao
- (a) **Answer: 19.0 m**
- (b) **M1** difference in metres: $19.1 - 19.0 = 0.10 \text{ m}$ (method)
- (b) **A1** 0.10 m and 10 cm cao
- (b) **Answer: 0.10 m which is 10 cm**

Question 9

- **M1** convert drawing length to actual: $25 \text{ cm} \times 20 = 500 \text{ cm}$ (method)
- **A1** 5 m cao
- **Answer: 5 m** ($25 \text{ cm} \times 20 = 500 \text{ cm} = 5 \text{ m}$)