3.6 Scale Drawings and Maps: Test Pack

Calculators not allowed · about 55 minutes

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 State the real distance represented by 1 cm on a map with scale 1:50 000.

(1)

2 A rectangular garden is 12 m by 8 m in reality. Drawn to scale 1:200, what are the lengths of the sides on the drawing in centimetres?

(2)

3 On a 1:20 000 map the distance between two shops is 2.75 cm. Give the real distance in metres.

(2)

4 Two towns are 18 km apart. On a map with scale 1:90 000 what is the distance between them on the map, in millimetres?

(2)

© Revision Library | revisionlibrary.co.uk

5 A hiker will walk 15 km along a straight route. On a map with scale 1:50 000, how many centimetres long will the route be on the map? If the printed map sheet can show a maximum straight length of 20 cm, how many sheets are needed to show the whole route?

(3)

---

6 A scale drawing uses 1:500. A rectangle on the drawing has area 18 cm². Calculate the real area in square metres.

(3)

---

7 A cyclist plans a route that measures 27.5 cm on a map with scale 1:60 000. The cyclist will ride at an average speed of 15 km/h. Estimate the time to complete the route, giving your answer in minutes to the nearest minute.

(4)

---

8 Write the ratio 20 : 38 in the form 1 : n.

(2)

© Revision Library | revisionlibrary.co.uk

9 A map has a scale of 1 : 2000. A path is 84 m long in real life. How long is it on the map in centimetres?

(3)

---

10 On a map, 1 cm represents 0.1 km. A road is 5.8 cm long on the map. Work out the real length of the road in kilometres.

(2)

---

11 Write the ratio 20 : 49 in the form 1 : n.

(2)

---

12 A scale drawing uses a scale of 5 cm to 5 m. Write the scale in the form 1 : n.

(3)

---

13 A path on a map measures 7.4 cm and in real life it is 1.85 km. Find the scale of the map in the form 1:n.

(2)

© Revision Library | revisionlibrary.co.uk

14 Write the ratio 2 : 10 in the form 1 : n.

(2)

---

15 A map has a scale of 1 : 1000. Two towns are 3.9 cm apart on the map. Work out the real distance between the towns. Give your answer in m.

(2)

---

16 A map uses the statement 1 cm = 0.5 km. What is the real distance represented by 9 cm on this map? Give your answer in kilometres.

(1)

---

17 The ratio of the length of a model to the length of the real plane is 5 : 8. Write this ratio in the form 1 : n.

(2)

---

18 Write the ratio 25 : 58 in the form 1 : n.

(2)

---

19 On a map with scale 1:10 000, what real distance does 5 cm represent? Give your answer in metres.

(1)

© Revision Library | revisionlibrary.co.uk

20 A map scale is stated as 1 cm = 2 km. What real distance does 6 cm represent?

(1)

---

21 A distance of 4.5 km in real life is shown on a map with scale 1:50 000. Calculate the map distance in centimetres.

(2)

© Revision Library | revisionlibrary.co.uk

Mark scheme · 3.6 Scale Drawings and Maps: Test Pack

Question 1

500 m or 0.5 km cao — B1

Answer: **500 m**

Question 2

convert metres to cm and divide by 200: 1200/200 = 6, 800/200 = 4 — M1

6 cm by 4 cm cao — A1

Answer: **6 cm by 4 cm**

Question 3

2.75 x 20 000 = 55 000 cm = 550 m — M1

550 m cao — A1

Answer: **550 m**

Question 4

convert 18 km to cm = 1 800 000 cm then divide by 90 000 = 20 cm — M1

200 mm cao — A1

Answer: **200 mm**

Question 5

convert 15 km to cm = 1 500 000 cm and divide by 50 000 to get 30 cm — M1

compare 30 cm to sheet length 20 cm and compute required number — M1

30 cm; 2 sheets cao — A1

Answer: **30 cm and 2 sheets**

Question 6

use area scale factor (500^2 = 250 000) and multiply: 18 x 250 000 = 4 500 000 cm² — M1

convert cm^2 to m^2: 4 500 000 cm² = 450 m² — M1

450 m² cao — A1

Answer: **450 m^2**

Question 7

convert map cm to real: 27.5 x 60 000 = 1 650 000 cm = 16.5 km — M1

compute time in hours = 16.5/15 = 1.1 h — M1

convert hours to minutes: 1.1 x 60 = 66 minutes — M1

66 minutes cao — A1

Answer: **66 minutes**

Question 8

divides both parts by 20 — M1

1 : 1.9 cao — A1

Answer: **1 : 1.9**

Question 9

84 x 100 = 8400 cm — M1

÷ 2000 — M1

4.2 cm cao — A1

Answer: **4.2 cm**

Question 10

5.8 x 0.1 — M1

0.58 km cao — A1

Answer: **0.58 km**

Question 11

divides both parts by 20 — M1

1 : 2.45 cao — A1

Answer: **1 : 2.45**

Question 12

5 m = 500 cm — M1

500 ÷ 5 — M1

1 : 100 cao — A1

Answer: **1 : 100**

Question 13

convert 1.85 km to cm = 185 000 cm and divide by 7.4 — M1

1:25 000 cao — A1

Answer: **1:25 000**

Question 14

divides both parts by 2 — M1

1 : 5 cao — A1

Answer: **1 : 5**

Question 15

3.9 x 1000 — M1

39 m cao — A1

Answer: **39 m**

Question 16

4.5 km cao — B1

Answer: **4.5 km**

Question 17

8 ÷ 5 — M1

1 : 1.6 cao — A1

Answer: **1 : 1.6**

Question 18

divides both parts by 25 — M1

1 : 2.32 cao — A1

Answer: **1 : 2.32**

Question 19

500 m cao — B1

Answer: **500 m**

Question 20

12 km cao — B1

Answer: **12 km**

© Revision Library | revisionlibrary.co.uk

Question 21

convert 4.5 km to cm = 450 000 cm **M1**

9 cm cao **A1**

Answer: **9 cm**

© Revision Library | revisionlibrary.co.uk