2.6-3 Ratio and Proportion: Practice Set 3: 1-hour Pack

GL ASSESSMENT EP.M50 · Calculators not allowed · about 60 minutes

Total Marks

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 Sana's map has a scale of 1:10,000. A path is 2 km long in real life. How long is the path on the map, in cm?

- [ ] A) 0.2 cm
- [ ] B) 20 cm
- [ ] C) 200 cm
- [ ] D) 20,000 cm
- [ ] E) 2 cm

---

2 Poppy's map has a scale of 1:100,000. Two villages are 2 cm apart on the map. What is the real distance between them in kilometres?

- [ ] A) 1 km
- [ ] B) 0.2 km
- [ ] C) 200,000 km
- [ ] D) 20 km
- [ ] E) 2 km

---

3 Ewan's map has a scale of 1:20,000. A path is 5 km long in real life. How long is the path on the map, in cm?

- [ ] A) 25 cm
- [ ] B) 0.25 cm
- [ ] C) 2.5 cm
- [ ] D) 250 cm
- [ ] E) 100,000 cm

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4 Oliver's map has a scale of 1:25,000. A path is 2 km long in real life. How long is the path on the map, in cm?

- [ ] A) 80 cm
- [ ] B) 9 cm
- [ ] C) 0.8 cm
- [ ] D) 8 cm
- [ ] E) 50,000 cm

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5 Poppy's map has a scale of 1:50,000. Two villages are 4 cm apart on the map. What is the real distance between them in kilometres?

- [ ] A) 3 km
- [ ] B) 0.2 km
- [ ] C) 20 km
- [ ] D) 200,000 km
- [ ] E) 2 km

---

6 Leo's map has a scale of 1:20,000. Two villages are 6.5 cm apart on the map. What is the real distance between them in kilometres?

- [ ] A) 13 km
- [ ] B) 130,000 km
- [ ] C) 20,006.5 km
- [ ] D) 1.3 km
- [ ] E) 0.13 km

---

7 Priya's map has a scale of 1:50,000. A path is 12 km long in real life. How long is the path on the map, in cm?

- [ ] A) 24 cm
- [ ] B) 0.24 cm
- [ ] C) 240 cm
- [ ] D) 2.4 cm
- [ ] E) 60,000,000,000 cm

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8 Hamza's map has a scale of 1:10,000. Two villages are 4 cm apart on the map. What is the real distance between them in metres?

- [ ] A) 40,000 m
- [ ] B) 400 m
- [ ] C) 4,000 m
- [ ] D) 40 m
- [ ] E) 10,004 m

---

9 Aisha's map has a scale of 1:1,000. Two villages are 6 cm apart on the map. What is the real distance between them in metres?

- [ ] A) 59 m
- [ ] B) 60 m
- [ ] C) 6,000 m
- [ ] D) 6 m
- [ ] E) 600 m

---

10 Ravi's map has a scale of 1:100,000. A path is 12 km long in real life. How long is the path on the map, in cm?

- [ ] A) 0.12 cm
- [ ] B) 120 cm
- [ ] C) 12 cm
- [ ] D) 11 cm
- [ ] E) 1.2 cm

---

11 Arjun's map has a scale of 1:50,000. Two villages are 5 cm apart on the map. What is the real distance between them in metres?

- [ ] A) 25,000 m
- [ ] B) 2,501 m
- [ ] C) 250,000 m
- [ ] D) 2,500 m
- [ ] E) 50,005 m

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12 Kofi's map has a scale of 1:2,000. Two villages are 3.5 cm apart on the map. What is the real distance between them in metres?

- [ ] A) 70 m
- [ ] B) 7,000 m
- [ ] C) 71 m
- [ ] D) 700 m
- [ ] E) 7 m

---

13 Rhys's map has a scale of 1:50,000. Two villages are 10 cm apart on the map. What is the real distance between them in metres?

- [ ] A) 500,000 m
- [ ] B) 50,010 m
- [ ] C) 50,000 m
- [ ] D) 5,001 m
- [ ] E) 5,000 m

---

14 Chloe's map has a scale of 1:10,000. Two villages are 12 cm apart on the map. What is the real distance between them in metres?

- [ ] A) 1,200 m
- [ ] B) 1,201 m
- [ ] C) 120,000 m
- [ ] D) 120 m
- [ ] E) 12,000 m

---

15 A box of biscuits contains plain biscuits and chocolate biscuits in the ratio 5 : 3. Calculate what percentage of the biscuits are chocolate biscuits.

(2)

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16 Rhys's map has a scale of 1:5,000. Two villages are 24 cm apart on the map. What is the real distance between them in kilometres?

- [ ] A) 120,000 km
- [ ] B) 1.2 km
- [ ] C) 12 km
- [ ] D) 2.2 km
- [ ] E) 5,024 km

---

17 Ben's map has a scale of 1:1,000. Two villages are 10 cm apart on the map. What is the real distance between them in metres?

- [ ] A) 10 m
- [ ] B) 10,000 m
- [ ] C) 1,000 m
- [ ] D) 100 m
- [ ] E) 101 m

---

18 Harry's map has a scale of 1:25,000. Two villages are 8 cm apart on the map. What is the real distance between them in metres?

- [ ] A) 200,000 m
- [ ] B) 25,008 m
- [ ] C) 2,001 m
- [ ] D) 20,000 m
- [ ] E) 2,000 m

---

19 Chloe's map has a scale of 1:25,000. Two villages are 3 cm apart on the map. What is the real distance between them in kilometres?

- [ ] A) 0.75 km
- [ ] B) 0.075 km
- [ ] C) 7.5 km
- [ ] D) 1.75 km
- [ ] E) 75,000 km

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20 Harry's map has a scale of 1:25,000. Two villages are 10 cm apart on the map. What is the real distance between them in kilometres?

- [ ] A) 25 km
- [ ] B) 1.5 km
- [ ] C) 0.25 km
- [ ] D) 2.5 km
- [ ] E) 250,000 km

---

21 Fatima's map has a scale of 1:20,000. A path is 1 km long in real life. How long is the path on the map, in cm?

- [ ] A) 6 cm
- [ ] B) 0.5 cm
- [ ] C) 5 cm
- [ ] D) 2,000,000,000 cm
- [ ] E) 50 cm

---

22 Jack's map has a scale of 1:100,000. A path is 2 km long in real life. How long is the path on the map, in cm?

- [ ] A) 20 cm
- [ ] B) 0.2 cm
- [ ] C) 2 cm
- [ ] D) 3 cm
- [ ] E) 1 cm

---

23 Amara's map has a scale of 1:5,000. Two villages are 15 cm apart on the map. What is the real distance between them in metres?

- [ ] A) 75 m
- [ ] B) 75,000 m
- [ ] C) 7,500 m
- [ ] D) 749 m
- [ ] E) 750 m

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24 Priya and Sam share 72 conkers in the ratio 5 : 4. Calculate how many conkers Sam receives.

(2)

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25 Declan's map has a scale of 1:50,000. Two villages are 20 cm apart on the map. What is the real distance between them in kilometres?

- ☐ A) 50,020 km
- ☐ B) 10 km
- ☐ C) 1,000,000 km
- ☐ D) 100 km
- ☐ E) 11 km

---

26 Arjun's map has a scale of 1:5,000. Two villages are 24 cm apart on the map. What is the real distance between them in metres?

- ☐ A) 1,199 m
- ☐ B) 12,000 m
- ☐ C) 120,000 m
- ☐ D) 1,200 m
- ☐ E) 120 m

---

27 Oliver's map has a scale of 1:100,000. Two villages are 3 cm apart on the map. What is the real distance between them in metres?

- ☐ A) 3,000 m
- ☐ B) 300,000 m
- ☐ C) 300 m
- ☐ D) 30,000 m
- ☐ E) 3,001 m

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28 Tom's map has a scale of 1:50,000. A path is 4 km long in real life. How long is the path on the map, in cm?

- [ ] A) 20,000,000,000 cm
- [ ] B) 80 cm
- [ ] C) 8 cm
- [ ] D) 0.8 cm
- [ ] E) 0.08 cm

---

29 Tom's map has a scale of 1:100,000. Two villages are 4 cm apart on the map. What is the real distance between them in kilometres?

- [ ] A) 400,000 km
- [ ] B) 40 km
- [ ] C) 3 km
- [ ] D) 5 km
- [ ] E) 4 km

---

30 Tom's map has a scale of 1:25,000. Two villages are 6.5 cm apart on the map. What is the real distance between them in metres?

- [ ] A) 1,625 m
- [ ] B) 162,500 m
- [ ] C) 16,250 m
- [ ] D) 1,626 m
- [ ] E) 25,006.5 m

---

31 Callum's map has a scale of 1:25,000. Two villages are 4 cm apart on the map. What is the real distance between them in kilometres?

- [ ] A) 0.1 km
- [ ] B) 1 km
- [ ] C) 10 km
- [ ] D) 25,004 km
- [ ] E) 100,000 km

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32 Poppy's map has a scale of 1:50,000. Two villages are 2 cm apart on the map. What is the real distance between them in kilometres?

- [ ] A) 2 km
- [ ] B) 50,002 km
- [ ] C) 1 km
- [ ] D) 100,000 km
- [ ] E) 10 km

---

33 Arjun's map has a scale of 1:2,000. Two villages are 20 cm apart on the map. What is the real distance between them in kilometres?

- [ ] A) 0.4 km
- [ ] B) 40,000 km
- [ ] C) 1.4 km
- [ ] D) 0.04 km
- [ ] E) 4 km

---

34 There are 45 pupils in a school choir. The ratio of sopranos to altos is 7 : 2. Calculate how many altos are in the choir.

(2)

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35 Rhys's map has a scale of 1:1,000. Two villages are 10 cm apart on the map. What is the real distance between them in kilometres?

- [ ] A) 1,010 km
- [ ] B) 0.1 km
- [ ] C) 10,000 km
- [ ] D) 0.01 km
- [ ] E) 1 km

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36 Jack's map has a scale of 1:10,000. Two villages are 3 cm apart on the map. What is the real distance between them in kilometres?

- [ ] A) 0.03 km
- [ ] B) 1.3 km
- [ ] C) 30,000 km
- [ ] D) 3 km
- [ ] E) 0.3 km

---

37 Harry's map has a scale of 1:10,000. Two villages are 8 cm apart on the map. What is the real distance between them in metres?

- [ ] A) 8,000 m
- [ ] B) 80 m
- [ ] C) 801 m
- [ ] D) 80,000 m
- [ ] E) 800 m

---

38 Sienna's map has a scale of 1:25,000. A path is 6 km long in real life. How long is the path on the map, in cm?

- [ ] A) 2.4 cm
- [ ] B) 150,000 cm
- [ ] C) 240 cm
- [ ] D) 24 cm
- [ ] E) 25 cm

---

39 Ewan's map has a scale of 1:20,000. Two villages are 3 cm apart on the map. What is the real distance between them in kilometres?

- [ ] A) 0.06 km
- [ ] B) 1.6 km
- [ ] C) 0.6 km
- [ ] D) 6 km
- [ ] E) 60,000 km

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40 Kwame's map has a scale of 1:50,000. A path is 10 km long in real life. How long is the path on the map, in cm?

- [ ] A) 20 cm
- [ ] B) 0.2 cm
- [ ] C) 50,000,000,000 cm
- [ ] D) 2 cm
- [ ] E) 200 cm

---

41 Megan's map has a scale of 1:50,000. Two villages are 24 cm apart on the map. What is the real distance between them in kilometres?

- [ ] A) 120 km
- [ ] B) 12 km
- [ ] C) 1,200,000 km
- [ ] D) 50,024 km
- [ ] E) 1.2 km

---

42 Ffion's map has a scale of 1:25,000. Two villages are 7 cm apart on the map. What is the real distance between them in metres?

- [ ] A) 1,750 m
- [ ] B) 1,751 m
- [ ] C) 17,500 m
- [ ] D) 175,000 m
- [ ] E) 1,749 m

---

43 £40 is shared between Alex and Priya in the ratio 3 : 5. How much does Alex receive?

- [ ] A) £15
- [ ] B) £20
- [ ] C) £25
- [ ] D) £30

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44 Noah's map has a scale of 1:1,000. Two villages are 6.5 cm apart on the map. What is the real distance between them in metres?

- [ ] A) 650 m
- [ ] B) 66 m
- [ ] C) 6,500 m
- [ ] D) 65 m
- [ ] E) 6.5 m

---

45 Yusuf's map has a scale of 1:100,000. A path is 1 km long in real life. How long is the path on the map, in cm?

- [ ] A) 0.1 cm
- [ ] B) 10 cm
- [ ] C) 0.01 cm
- [ ] D) 10,000,000,000 cm
- [ ] E) 1 cm

---

46 Noah's map has a scale of 1:50,000. A path is 6 km long in real life. How long is the path on the map, in cm?

- [ ] A) 120 cm
- [ ] B) 1.2 cm
- [ ] C) 12 cm
- [ ] D) 300,000 cm
- [ ] E) 13 cm

---

47 Callum's map has a scale of 1:25,000. A path is 4 km long in real life. How long is the path on the map, in cm?

- [ ] A) 100,000 cm
- [ ] B) 16 cm
- [ ] C) 10,000,000,000 cm
- [ ] D) 1.6 cm
- [ ] E) 160 cm

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48 Imogen's map has a scale of 1:50,000. A path is 3 km long in real life. How long is the path on the map, in cm?

- [ ] A) 60 cm
- [ ] B) 7 cm
- [ ] C) 15,000,000,000 cm
- [ ] D) 6 cm
- [ ] E) 0.6 cm

---

49 Jack's map has a scale of 1:20,000. A path is 8 km long in real life. How long is the path on the map, in cm?

- [ ] A) 41 cm
- [ ] B) 4 cm
- [ ] C) 400 cm
- [ ] D) 39 cm
- [ ] E) 40 cm

---

50 Megan's map has a scale of 1:100,000. Two villages are 24 cm apart on the map. What is the real distance between them in kilometres?

- [ ] A) 2,400,000 km
- [ ] B) 240 km
- [ ] C) 25 km
- [ ] D) 100,024 km
- [ ] E) 24 km

---

51 Jack's map has a scale of 1:50,000. Two villages are 3.5 cm apart on the map. What is the real distance between them in kilometres?

- [ ] A) 17.5 km
- [ ] B) 50,003.5 km
- [ ] C) 175,000 km
- [ ] D) 1.75 km
- [ ] E) 0.75 km

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52 A flapjack recipe for 6 people uses 240 g of butter, 180 g of golden syrup, 2 eggs and 320 g of oats. The recipe is scaled up for 9 people.

(a) Calculate the mass of butter needed for 9 people. **(1)**

.....

(b) Calculate the mass of golden syrup needed for 9 people. **(1)**

.....

(c) Calculate the number of eggs needed for 9 people. **(1)**

.....

(d) Calculate the mass of oats needed for 9 people. **(1)**

.....

---

53 Lily's map has a scale of 1:25,000. Two villages are 20 cm apart on the map. What is the real distance between them in kilometres?

- ☐ A) 5 km
- ☐ B) 6 km
- ☐ C) 50 km
- ☐ D) 0.5 km
- ☐ E) 500,000 km

---

54 Amara's map has a scale of 1:10,000. Two villages are 5 cm apart on the map. What is the real distance between them in metres?

- ☐ A) 5,000 m
- ☐ B) 10,005 m
- ☐ C) 500 m
- ☐ D) 50 m
- ☐ E) 50,000 m

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55 Aisha's map has a scale of 1:100,000. Two villages are 6.5 cm apart on the map. What is the real distance between them in metres?

- ☐ A) 650,000 m
- ☐ B) 6,500 m
- ☐ C) 6,501 m
- ☐ D) 65,000 m
- ☐ E) 650 m

---

56 A stationery shop sells notebooks in three pack sizes: a pack of 4 for £3.00, a pack of 6 for £4.50, and a pack of 9 for £7.20. Calculate the price per notebook for each pack size, and state which pack size (or sizes) offer the best value for money.

(3)

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Mark scheme · 2.6-3 Ratio and Proportion: Practice Set 3: 1-hour Pack

Question 1

correct option B (20 cm) cao **B1**

Answer: B) 20 cm

Question 2

correct option E (2 km) cao **B1**

Answer: E) 2 km

Question 3

correct option A (25 cm) cao **B1**

Answer: A) 25 cm

Question 4

correct option D (8 cm) cao **B1**

Answer: D) 8 cm

Question 5

correct option E (2 km) cao **B1**

Answer: E) 2 km

Question 6

correct option D (1.3 km) cao **B1**

Answer: D) 1.3 km

Question 7

correct option A (24 cm) cao **B1**

Answer: A) 24 cm

Question 8

correct option B (400 m) cao **B1**

Answer: B) 400 m

Question 9

correct option B (60 m) cao **B1**

Answer: B) 60 m

Question 10

correct option C (12 cm) cao **B1**

Answer: C) 12 cm

Question 11

correct option D (2,500 m) cao **B1**

Answer: D) 2,500 m

Question 12

correct option A (70 m) cao **B1**

Answer: A) 70 m

Question 13

correct option E (5,000 m) cao **B1**

Answer: E) 5,000 m

Question 14

correct option A (1,200 m) cao **B1**

Answer: A) 1,200 m

Question 15

total parts found (5 + 3 = 8) and fraction 3/8 set up, or equivalent method **M1**

37.5% oe cao **A1**

Answer: 37.5%

Question 16

correct option B (1.2 km) cao **B1**

Answer: B) 1.2 km

Question 17

correct option D (100 m) cao **B1**

Answer: D) 100 m

Question 18

correct option E (2,000 m) cao **B1**

Answer: E) 2,000 m

Question 19

correct option A (0.75 km) cao **B1**

Answer: A) 0.75 km

Question 20

correct option D (2.5 km) cao **B1**

Answer: D) 2.5 km

Question 21

correct option C (5 cm) cao **B1**

Answer: C) 5 cm

Question 22

correct option C (2 cm) cao **B1**

Answer: C) 2 cm

Question 23

correct option E (750 m) cao **B1**

Answer: E) 750 m

Question 24

total parts found (5 + 4 = 9) and unit value found: 72/9 = 8 **M1**

32 cao **A1**

Answer: 32

Question 25

correct option B (10 km) cao **B1**

Answer: B) 10 km

Question 26

correct option D (1,200 m) cao **B1**

Answer: D) 1,200 m

Question 27

correct option A (3,000 m) cao **B1**

Answer: A) 3,000 m

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Question 28

correct option C (8 cm) cao **B1**

Answer: C) 8 cm

Question 29

correct option E (4 km) cao **B1**

Answer: E) 4 km

Question 30

correct option A (1,625 m) cao **B1**

Answer: A) 1,625 m

Question 31

correct option B (1 km) cao **B1**

Answer: B) 1 km

Question 32

correct option C (1 km) cao **B1**

Answer: C) 1 km

Question 33

correct option A (0.4 km) cao **B1**

Answer: A) 0.4 km

Question 34

total parts found (7 + 2 = 9) and unit value found: 45/9 = 5 **M1**

10 cao **A1**

Answer: 10

Question 35

correct option B (0.1 km) cao **B1**

Answer: B) 0.1 km

Question 36

correct option E (0.3 km) cao **B1**

Answer: E) 0.3 km

Question 37

correct option E (800 m) cao **B1**

Answer: E) 800 m

Question 38

correct option D (24 cm) cao **B1**

Answer: D) 24 cm

Question 39

correct option C (0.6 km) cao **B1**

Answer: C) 0.6 km

Question 40

correct option A (20 cm) cao **B1**

Answer: A) 20 cm

Question 41

correct option B (12 km) cao **B1**

Answer: B) 12 km

Question 42

correct option A (1,750 m) cao **B1**

Answer: A) 1,750 m

Question 43

A (£15) cao **B1**

Answer: A) £15

Question 44

correct option D (65 m) cao **B1**

Answer: D) 65 m

Question 45

correct option E (1 cm) cao **B1**

Answer: E) 1 cm

Question 46

correct option C (12 cm) cao **B1**

Answer: C) 12 cm

Question 47

correct option B (16 cm) cao **B1**

Answer: B) 16 cm

Question 48

correct option D (6 cm) cao **B1**

Answer: D) 6 cm

Question 49

correct option E (40 cm) cao **B1**

Answer: E) 40 cm

Question 50

correct option E (24 km) cao **B1**

Answer: E) 24 km

Question 51

correct option D (1.75 km) cao **B1**

Answer: D) 1.75 km

Question 52

(a) 360 g cao **B1**

(a) Answer: 360 g

(b) 270 g cao **B1**

(b) Answer: 270 g

(c) 3 eggs cao **B1**

(c) Answer: 3 eggs

(d) 480 g cao **B1**

(d) Answer: 480 g

Question 53

correct option A (5 km) cao **B1**

Answer: A) 5 km

Question 54

correct option C (500 m) cao **B1**

Answer: C) 500 m

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Question 55

correct option B (6,500 m) cao	**B1**

Answer: B) 6,500 m

Question 56

price per notebook found for the pack of 4 and the pack of 6: 3.00/4 = 0.75, 4.50/6 = 0.75	**M1**
dep: price per notebook found for the pack of 9: 7.20/9 = 0.80, and all three compared	**M1**
the pack of 4 and the pack of 6 are joint best value at £0.75 each, cheaper than the pack of 9 at £0.80 cao	**A1**

Answer: Packs of 4 and 6 are joint best value (£0.75 per notebook each); the pack of 9 is worse value (£0.80 per notebook)

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