5.2 Ratio and Proportion: 2-hour Pack

Calculators not allowed · about 120 minutes

Total Marks

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 A shop sells 3 stickers for 51p and 5 stickers for 86p.

Which pack is better value for money? Write the number of stickers in the pack.

Answer: ___

(2)

2 A shop sells 3 pencils for 55p and 10 pencils for 168p.

Which pack is better value for money? Write the number of pencils in the pack.

Answer: ___

(2)

3 A shop sells 2 pens for 65p and 10 pens for 101p.

Which pack is better value for money? Write the number of pens in the pack.

Answer: ___

(2)

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4 7 postcards cost 665p.

How much do 10 postcards cost? Give your answer in pounds.

Answer: £___

(2)

---

5 A rectangle is 2 cm wide. It is enlarged by scale factor 6.

How wide is the enlarged rectangle?

Answer: ___ cm

(1)

---

6 Write the ratio 56:48 in its simplest form.

Answer: ___

(2)

---

7 A rectangular photo is enlarged by a scale factor of 3. The original photo has width 6 cm and height 4 cm. What is the area of the enlarged photo in square centimetres?

(2)

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8 Oscar, Jack and Tom share 270 stickers in the ratio 1:7:7.

How many stickers does Tom get?

Answer: ___

(1)

---

9 A recipe for biscuits for 8 people uses 350 g of butter.

How much butter is needed for 16 people?

Answer: ___ g

(2)

---

10 Nia and Poppy share £45 in the ratio 7:8.

How much does Poppy get?

Answer: £___

(3)

---

11 Bella and Yusuf share 33 football cards in the ratio 6:5.

How many football cards does Bella get?

Answer: ___

(2)

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12 Tom and Ravi share some money in the ratio 3:7. The difference between their shares is £32.

How much money is shared altogether?

Answer: £___

(2)

---

13 The ratio of sunny days to rainy days is 2:1. There are 9 days altogether.

How many sunny days are there?

Answer: ___

(2)

---

14 5 bookmarks cost 90p.

How much do 8 bookmarks cost? Give your answer in pounds.

Answer: £___

(2)

---

15 A rectangle is 5 cm wide. It is enlarged by scale factor 3.

How wide is the enlarged rectangle?

Answer: ___ cm

(1)

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16 Share 95 metres of ribbon between three boxes in the ratio 1:1:3. How many metres does each of the smaller two boxes get?

(2)

---

17 The ratio of apple trees to pear trees is 6:8. There are 70 trees altogether.

How many apple trees are there?

Answer: ___

(2)

---

18 Jack and Victor share £125 in the ratio 1:4.

How much does Jack get?

Answer: £___

(3)

---

19 A recipe for rice pudding for 4 people uses 100 ml of milk.

How much milk is needed for 20 people?

Answer: ___ ml

(2)

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20 A recipe for pancakes for 6 people uses 50 g of flour.

How much flour is needed for 24 people?

Answer: ___ g

(2)

---

21 On a map, 1 cm shows 1 km. Two towns are 7 cm apart on the map.

How far apart are the towns in real life?

Answer: ___ km

(1)

---

22 A shop sells 5 rice packs for £2.18 and 10 rice packs for £4.13.

Which option costs less for each pack? Write 5 or 10 for the number of packs.

Answer: ___

(2)

---

23 A recipe for muffins for 8 people uses 125 ml of milk.

How much milk is needed for 40 people?

Answer: ___ ml

(2)

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24 A model of a ship is 2 cm long. The real ship is 200 times as long.

How long is the real ship in metres?

Answer: ___ m

(2)

---

25 Ella, Priya and Aaron share £132 in the ratio 3:2:1.

How much does Priya get?

Answer: £___

(2)

---

26 A model of a ship is 8 cm long. The real ship is 200 times as long.

How long is the real ship in metres?

Answer: ___ m

(2)

---

27 A rectangle is 3 cm wide. It is enlarged by scale factor 10.

How wide is the enlarged rectangle?

Answer: ___ cm

(1)

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28 On a map, 1 cm shows 10 km. Two towns are 8 cm apart on the map.

How far apart are the towns in real life?

Answer: ___ km

(1)

---

29 Freya, Noah and Ben share £160 in the ratio 3:7:6.

How much does Freya get?

Answer: £___

(2)

---

30 Mateo, Amira and Priya share £12 in the ratio 4:1:1.

How much does Amira get?

Answer: £___

(1)

---

31 Olu and Kofi share 72 football cards in the ratio 4:2.

How many football cards does Kofi get?

Answer: ___

(2)

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32 Write the ratio 14:8 in its simplest form.

Answer: ___

(2)

---

33 Grace and Uma share some money in the ratio 5:9. The difference between their shares is £36.

How much money is shared altogether?

Answer: £___

(2)

---

34 Mateo, Aaron and Poppy share 294 stickers in the ratio 7:7:7.

How many stickers does Mateo get?

Answer: ___

(1)

---

35 Ivan and Bella share some money in the ratio 4:1. The difference between their shares is £27.

How much money is shared altogether?

Answer: £___

(2)

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36 A model of a ship is 5 cm long. The real ship is 400 times as long.

How long is the real ship in metres?

Answer: ___ m

(2)

---

37 The ratio of red counters to blue counters is 4:7. There are 77 counters altogether.

How many red counters are there?

Answer: ___

(2)

---

38 A shop sells 2 stickers for 49p and 5 stickers for 63p.

Which pack is better value for money? Write the number of stickers in the pack.

Answer: ___

(2)

---

39 Priya, Chloe and Femi share 96 pencils in the ratio 1:1:4.

How many pencils does Femi get?

Answer: ___

(3)

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40 Bella and Nia share £72 in the ratio 1:2.

How much does Bella get?

Answer: £___

(2)

---

41 A model of a ship is 5 cm long. The real ship is 1000 times as long.

How long is the real ship in metres?

Answer: ___ m

(2)

---

42 Daisy and Yusuf share some money in the ratio 4:6. The difference between their shares is £12.

How much money is shared altogether?

Answer: £___

(2)

---

43 A model plane is made with a scale of 1:50. The model wingspan is 18 cm. What is the real wingspan in metres?

(2)

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44 A recipe for flapjacks for 8 people uses 100 g of butter.

How much butter is needed for 48 people?

Answer: ___ g

(2)

---

45 Tom and Mia share £270 in the ratio 7:8.

How much does Mia get?

Answer: £___

(3)

---

46 4 pencils cost 352p.

How much do 12 pencils cost? Give your answer in pounds.

Answer: £___

(2)

---

47 A recipe for pancakes for 5 people uses 350 ml of milk.

How much milk is needed for 20 people?

Answer: ___ ml

(2)

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48 3 keyrings cost 81p.

How much do 11 keyrings cost? Give your answer in pounds.

Answer: £___

(2)

---

49 Hana and Reece share 224 pencils in the ratio 6:2.

How many pencils does Hana get?

Answer: ___

(3)

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Mark scheme · 5.2 Ratio and Proportion: 2-hour Pack

A correct answer earns full marks unless the question asks for working, a method, proof or explanation.

Question 1

finds the cost of one in each pack — M1
3 cao — A1
Answer: **3**

Question 2

finds the cost of one in each pack — M1
10 cao — A1
Answer: **10**

Question 3

finds the cost of one in each pack — M1
10 cao — A1
Answer: **10**

Question 4

665 divided by 7 = 95 seen — M1
£9.50 cao — A1
Answer: **£9.50**

Question 5

12 cm cao — B1
Answer: **12 cm**

Question 6

divides both by a common factor — M1
7:6 cao — A1
Answer: **7:6**

Question 7

Scale lengths by 3 so new width 18 and height 12, or state area scale factor is 9 — M1
Area = 216 cm² cao — B1
Answer: **216**

Question 8

126 cao — B1
Answer: **126**

Question 9

finds the amount for 1 person or a scale factor — M1
700 g cao — A1
Answer: **700 g**

Question 10

45 divided by 15 = 3 seen — M1
multiplies by their share — M1
£24 cao — A1
Answer: **£24**

Question 11

33 divided by 11 = 3 seen — M1
18 cao — A1
Answer: **18**

Question 12

4 parts = £32 so 1 part = £8 seen — M1
£80 cao — A1
Answer: **£80**

Question 13

9 divided by 3 seen — M1
6 cao — A1
Answer: **6**

Question 14

90 divided by 5 = 18 seen — M1
£1.44 cao — A1
Answer: **£1.44**

Question 15

15 cm cao — B1
Answer: **15 cm**

Question 16

Divide 95 into total parts 1+1+3=5, 95 ÷ 5 = 19 — M1
Each smaller box gets 19 m cao — B1
Answer: **19**

Question 17

70 divided by 14 = 5 seen — M1
30 cao — A1
Answer: **30**

Question 18

125 divided by 5 = 25 seen — M1
multiplies by their share — M1
£25 cao — A1
Answer: **£25**

Question 19

finds the amount for 1 person or a scale factor — M1
500 ml cao — A1
Answer: **500 ml**

Question 20

finds the amount for 1 person or a scale factor — M1
200 g cao — A1
Answer: **200 g**

Question 21

7 km cao — B1
Answer: **7 km**

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Question 22

works out a cost per pack for each option **M1**
10 cao **A1**
Answer: **10**

Question 23

finds the amount for 1 person or a scale factor **M1**
625 ml cao **A1**
Answer: **625 ml**

Question 24

converts cm to m **M1**
4 m cao **A1**
Answer: **4 m**

Question 25

132 divided by 6 = 22 seen **M1**
£44 cao **A1**
Answer: **£44**

Question 26

converts cm to m **M1**
16 m cao **A1**
Answer: **16 m**

Question 27

30 cm cao **B1**
Answer: **30 cm**

Question 28

80 km cao **B1**
Answer: **80 km**

Question 29

160 divided by 16 = 10 seen **M1**
£30 cao **A1**
Answer: **£30**

Question 30

£2 cao **B1**
Answer: **£2**

Question 31

72 divided by 6 = 12 seen **M1**
24 cao **A1**
Answer: **24**

Question 32

divides both by a common factor **M1**
7:4 cao **A1**
Answer: **7:4**

Question 33

4 parts = £36 so 1 part = £9 seen **M1**
£126 cao **A1**
Answer: **£126**

Question 34

98 cao **B1**
Answer: **98**

Question 35

3 parts = £27 so 1 part = £9 seen **M1**
£45 cao **A1**
Answer: **£45**

Question 36

converts cm to m **M1**
20 m cao **A1**
Answer: **20 m**

Question 37

77 divided by 11 = 7 seen **M1**
28 cao **A1**
Answer: **28**

Question 38

finds the cost of one in each pack **M1**
5 cao **A1**
Answer: **5**

Question 39

96 divided by 6 = 16 seen **M1**
multiplies by their share **M1**
64 cao **A1**
Answer: **64**

Question 40

72 divided by 3 = 24 seen **M1**
£24 cao **A1**
Answer: **£24**

Question 41

converts cm to m **M1**
50 m cao **A1**
Answer: **50 m**

Question 42

2 parts = £12 so 1 part = £6 seen **M1**
£60 cao **A1**
Answer: **£60**

Question 43

Scale 1:50 so actual = 18 × 50 cm = 900 cm or equivalent **M1**
900 cm = 9 m cao **B1**
Answer: **9**

Question 44

finds the amount for 1 person or a scale factor **M1**
600 g cao **A1**
Answer: **600 g**

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Question 45

270 divided by 15 = 18 seen	**M1**
multiplies by their share	**M1**
£144 cao	**A1**

Answer: **£144**

Question 46

352 divided by 4 = 88 seen	**M1**
£10.56 cao	**A1**

Answer: **£10.56**

Question 47

finds the amount for 1 person or a scale factor	**M1**
1,400 ml cao	**A1**

Answer: **1,400 ml**

Question 48

81 divided by 3 = 27 seen	**M1**
£2.97 cao	**A1**

Answer: **£2.97**

Question 49

224 divided by 8 = 28 seen	**M1**
multiplies by their share	**M1**
168 cao	**A1**

Answer: **168**

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