5.2 Ratio and Proportion: 1-hour Pack

Calculators not allowed · about 60 minutes

Total Marks

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 A picture is reduced so that its width becomes 12 cm from an original 20 cm. What scale factor was used? Give your answer as a fraction in simplest form.

(2)

2 A drawing is enlarged by a scale factor of 2.5. The original length is 8 cm. What is the new length in centimetres? Give your answer as a decimal.

(2)

3 A recipe uses milk and water in the ratio 2:7. If you have 63 ml of water, how much milk do you need?

(2)

4 A recipe for biscuits for 2 people uses 125 g of flour.

How much flour is needed for 6 people?

Answer: ___ g

(2)

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5 8 folders cost 640p.

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

Answer: £___

(2)

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6 A model of a ship is 12 cm long. The real ship is 200 times as long.

How long is the real ship in metres?

Answer: ___ m

(2)

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7 A shop sells 2 juice packs for £1.84 and 3 juice packs for £4.71.

Which option costs less for each pack? Write 2 or 3 for the number of packs.

Answer: ___

(2)

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8 Ethan, Layla and Tom share 315 marbles in the ratio 5:7:3.

How many marbles does Layla get?

Answer: ___

(3)

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9 2 erasers cost 74p.

How much do 5 erasers cost? Give your answer in pounds.

Answer: £___

(2)

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10 A shop sells 2 pens for 92p and 5 pens for 71p.

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

Answer: ___

(2)

---

11 2 folders cost 62p.

How much do 7 folders cost? Give your answer in pounds.

Answer: £___

(2)

---

12 Ben and Bella share some money in the ratio 3:4. The difference between their shares is £10.

How much money is shared altogether?

Answer: £___

(2)

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13 The ratio of red counters to blue counters is 1:8. There are 72 counters altogether.

How many red counters are there?

Answer: ___

(2)

---

14 A model of a ship is 9 cm long. The real ship is 300 times as long.

How long is the real ship in metres?

Answer: ___ m

(2)

---

15 A model of a ship is 4 cm long. The real ship is 600 times as long.

How long is the real ship in metres?

Answer: ___ m

(2)

---

16 A recipe for scones for 2 people uses 275 g of flour.

How much flour is needed for 10 people?

Answer: ___ g

(2)

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17 Grace and Ben share some money in the ratio 1:2. The difference between their shares is £11.

How much money is shared altogether?

Answer: £___

(2)

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18 A shop sells 6 cereal packs for £0.96 and 4 cereal packs for £2.95.

Which option costs less for each pack? Write 6 or 4 for the number of packs.

Answer: ___

(2)

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19 A shop sells 4 rice packs for £2.24 and 10 rice packs for £1.04.

Which option costs less for each pack? Write 4 or 10 for the number of packs.

Answer: ___

(2)

---

20 Femi, Aaron and Oscar share £392 in the ratio 2:6:6.

How much does Aaron get?

Answer: £___

(1)

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21 Three friends share a prize of 360 points in the ratio 4:3:5.

(a) How many points does the friend with 3 parts get? **(1)**

(b) If the friend with 5 parts gives 20 points to the friend with 4 parts, what are their new totals? **(2)**

22 Write the ratio 64:8 in its simplest form.

Answer: ___

(2)

23 5 stickers cost 140p.

How much do 9 stickers cost? Give your answer in pounds.

Answer: £___

(2)

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Mark scheme · 5.2 Ratio and Proportion: 1-hour Pack

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

Question 1

Show factor 12 ÷ 20 or equivalent	M1
Scale factor 3/5 cao	B1

Answer: **3/5**

Question 2

Multiply 8 × 2.5 or show method	M1
New length 20.0 cm or 20 cm cao	B1

Answer: **20**

Question 3

Use ratio 2:7 so water corresponds to 7 parts; find 1 part = 63 ÷ 7 = 9	M1
Milk needed 2 × 9 = 18 ml cao	B1

Answer: **18**

Question 4

finds the amount for 1 person or a scale factor	M1
375 g cao	A1

Answer: **375 g**

Question 5

640 divided by 8 = 80 seen	M1
£8 cao	A1

Answer: **£8**

Question 6

converts cm to m	M1
24 m cao	A1

Answer: **24 m**

Question 7

works out a cost per pack for each option	M1
2 cao	A1

Answer: **2**

Question 8

315 divided by 15 = 21 seen	M1
multiplies by their share	M1
147 cao	A1

Answer: **147**

Question 9

74 divided by 2 = 37 seen	M1
£1.85 cao	A1

Answer: **£1.85**

Question 10

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

Answer: **5**

Question 11

62 divided by 2 = 31 seen	M1
£2.17 cao	A1

Answer: **£2.17**

Question 12

1 parts = £10 so 1 part = £10 seen	M1
£70 cao	A1

Answer: **£70**

Question 13

72 divided by 9 = 8 seen	M1
8 cao	A1

Answer: **8**

Question 14

converts cm to m	M1
27 m cao	A1

Answer: **27 m**

Question 15

converts cm to m	M1
24 m cao	A1

Answer: **24 m**

Question 16

finds the amount for 1 person or a scale factor	M1
1,375 g cao	A1

Answer: **1,375 g**

Question 17

1 parts = £11 so 1 part = £11 seen	M1
£33 cao	A1

Answer: **£33**

Question 18

works out a cost per pack for each option	M1
6 cao	A1

Answer: **6**

Question 19

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

Answer: **10**

Question 20

£168 cao	B1

Answer: **£168**

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Question 21

(a) 90 points cao	**B1**
(a) Answer: **90**	
(b) Find original totals for 4 parts and 5 parts (4×30 and 5×30) or equivalent	**M1**
(b) New totals 4-part friend 140, 5-part friend 130 cao	**B1**
(b) Answer: **140 and 130**	

Question 22

divides both by a common factor	**M1**
8:1 cao	**A1**
Answer: **8:1**	

Question 23

140 divided by 5 = 28 seen	**M1**
£2.52 cao	**A1**
Answer: **£2.52**	

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