# 5.2 Ratio and Proportion: 30-minute Pack

Calculators not allowed · about 30 minutes

Total Marks

Name: _____ Date: ____ / ____ / _____

**Answer ALL questions. Show all your working.**

**1** For every 4 boys there are 5 girls. There are 20 boys.

How many girls are there?

Answer: ___

**(2)**

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**2** 4 stickers cost 272p.

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

Answer: £___

**(2)**

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**3** A recipe for muffins for 6 people uses 225 g of sugar.

How much sugar is needed for 18 people?

Answer: ___ g

**(2)**


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**4** For every 5 fiction books there are 4 non-fiction books. There are 25 fiction books.

How many non-fiction books are there?

Answer: ___

**(2)**

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**5** A model of a ship is 7 cm long. The real ship is 700 times as long.

How long is the real ship in metres?

Answer: ___ m

**(2)**

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**6** Two quantities are in the ratio 5:8. If the smaller quantity is 35, find the larger quantity.

**(2)**

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**7** A recipe for scones for 2 people uses 300 g of butter.

How much butter is needed for 6 people?

Answer: ___ g

**(2)**


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**8** Write the ratio 2:6 in its simplest form.

Answer: ___

**(2)**

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**9** A bag contains red and blue counters in the ratio 3:4. If there are 63 counters altogether, what fraction of the counters are red? Give your answer in simplest form.

**(3)**

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**10** A shop sells 3 pens packs for £1.16 and 5 pens packs for £3.98.

Which option costs less for each pack? Write 3 or 5 for the number of packs.

Answer: ___

**(2)**

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**11** Emma and Noah share a box of 48 pencils in the ratio 2:6.
Explain why sharing in the ratio 1:3 gives the same result. Give the number of pencils each gets as part of your explanation.

**(3)**


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# Mark scheme · 5.2 Ratio and Proportion: 30-minute Pack

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

## Question 1

| | |
|---|---|
| 20 divided by 4 = 5 seen | M1 |
| 25 cao | A1 |

Answer: **25**

## Question 2

| | |
|---|---|
| 272 divided by 4 = 68 seen | M1 |
| £4.76 cao | A1 |

Answer: **£4.76**

## Question 3

| | |
|---|---|
| finds the amount for 1 person or a scale factor | M1 |
| 675 g cao | A1 |

Answer: **675 g**

## Question 4

| | |
|---|---|
| 25 divided by 5 seen | M1 |
| 20 cao | A1 |

Answer: **20**

## Question 5

| | |
|---|---|
| converts cm to m | M1 |
| 49 m cao | A1 |

Answer: **49 m**

## Question 6

| | |
|---|---|
| Find 1 part: 35 ÷ 5 = 7 | M1 |
| Larger = 8 × 7 = 56 cao | B1 |

Answer: **56**

## Question 7

| | |
|---|---|
| finds the amount for 1 person or a scale factor | M1 |
| 900 g cao | A1 |

Answer: **900 g**

## Question 8

| | |
|---|---|
| divides both by a common factor | M1 |
| 1:3 cao | A1 |

Answer: **1:3**

## Question 9

| | |
|---|---|
| Find red count: total parts 3+4=7, 63 ÷ 7 = 9, red = 3 × 9 = 27 | M1 |
| Form fraction 27/63 or equivalent | M1 |
| Simplify fraction to 3/7 cao | B1 |

Answer: **3/7**

## Question 10

| | |
|---|---|
| works out a cost per pack for each option | M1 |
| 3 cao | A1 |

Answer: **3**

## Question 11

| | |
|---|---|
| State that 2:6 can be simplified by dividing both parts by 2 (or show equivalent simplification) | M1 |
| Show 1+3 = 4 parts and 48 ÷ 4 = 12 or equivalent | M1 |
| Give final amounts: Emma 12, Noah 36 cao | B1 |

Answer: **Emma 12, Noah 36**


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