



KS3.M-R2 Writing and Simplifying Ratios

AQA KS3.M-R2 · Calculators not allowed · about 60 minutes

Name: _____ Date: ____ / ____ / ____

Answer ALL questions. Show all your working.

1 Write each pair of quantities as a ratio in simplest form.

(a) 8 apples to 12 apples. (1)

(b) 6 pens to 15 pencils. (1)

(c) 10 red balloons to 4 blue balloons. (1)

(d) 21 boys to 14 girls. (1)

2 Simplify each ratio fully.

(a) 14 : 28 (1)

(b) 45 : 30 (1)

(c) 18 : 12 (1)

- 3** A class has ratio of girls to boys 2:3. There are 20 pupils in the class. Work out the number of girls.

(2)

- 4** Share 84 stickers in the ratio 5:1. Work out how many stickers the smaller share gets.

(2)

- 5** Write each ratio as a fraction in simplest form.

(a) 4:5 as a fraction

(1)

(b) 3:6 as a fraction in simplest form

(1)

(c) 7:2 as a fraction

(1)

- 6** Find the missing number to make equivalent ratios.

(a) 3:4 = 9:?

(2)

(b) 5:7 = ?:28

(2)

- 7** A recipe uses oats and sugar in the ratio 3:2. If you use 18 g of oats, how much sugar should you use to keep the same ratio?

(2)

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- 8** Write the ratio 0.5 : 2 in simplest whole-number form.

(1)

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- 9** Which is the larger ratio: 3:7 or 2:5? Explain briefly.

(2)

Mark scheme · KS3.M-R2 Writing and Simplifying Ratios

Question 1

- (a) **B1** 2:3 **cao**
- (a) Answer: **2:3**
- (b) **B1** 2:5 **cao**
- (b) Answer: **2:5**
- (c) **B1** 5:2 **cao**
- (c) Answer: **5:2**
- (d) **B1** 3:2 **cao**
- (d) Answer: **3:2**

Question 2

- (a) **B1** 1:2 **cao**
- (a) Answer: **1:2**
- (b) **B1** 3:2 **cao**
- (b) Answer: **3:2**
- (c) **B1** 3:2 **cao**
- (c) Answer: **3:2**

Question 3

- **M1** method: $2 + 3 = 5$ parts, $20/5 = 4$ or equivalent
- **A1** 8 girls **cao**
- Answer: **8 girls**

Question 4

- **M1** method: $5 + 1 = 6$ parts, $84/6 = 14$
- **A1** 14 stickers **cao**
- Answer: **14 stickers**

Question 5

- (a) **B1** $4/5$ **cao**
- (a) Answer: **4/5**
- (b) **B1** $1/2$ **cao**
- (b) Answer: **1/2**
- (c) **B1** $7/2$ **cao**
- (c) Answer: **7/2**

Question 6

- (a) **M1** scale factor 3 $\rightarrow$ 9 is $\times 3$, so $4 \times 3 = 12$
- (a) **A1** 12 **cao**
- (a) Answer: **12**
- (b) **M1** scale factor 7 $\rightarrow$ 28 is $\times 4$, so $5 \times 4 = 20$
- (b) **A1** 20 **cao**
- (b) Answer: **20**

Question 7

- **M1** method: 3 parts $\rightarrow$ 18 so 1 part = 6, sugar 2 parts = 12
- **A1** 12 g **cao**
- Answer: **12 g**

Question 8

- **B1** 1:4 cao
- Answer: **1:4**

Question 9

- **M1** method: convert to fractions $\frac{3}{7}$ and $\frac{2}{5}$ or compare by cross-multiplication
- **A1** conclusion: 3:7 is larger with a brief justification cao
- Answer: **3:7 is larger; $\frac{3}{7}$ is approximately 0.4286 and $\frac{2}{5} = 0.4$**