

Answer Key

Simplifying Ratios

1. $2 : 3$
2. $4 : 3 : 7$
3. $1 : 3$
4. $5 : 6$
5. $12 : 5 : 3$

Sharing into Ratios

1. 18 sweets and 6 sweets
2. £48 and £32
3. 40, 60, and 80 students
4. 0.3 m, 0.6 m, and 1.5 m
5. 30 red, 75 blue, 45 green

Recipe Questions

1. Minced beef 1 kg, onions 5, chopped tomatoes 1 kg, stock 375 ml.
2. Flour 525 g, butter 350 g, sugar $233\frac{1}{3}$ g, beaten egg $116\frac{2}{3}$ g (or $2\frac{1}{3}$ eggs).
3. Olive oil 210 ml, vinegar 105 ml, mustard 35 g, honey 17.5 g.
4. Lemon juice 0.6 L, sugar 0.3 L, water 2.4 L.
5. (a) Chicken 1.1 kg, rice 550 g, coconut milk 825 ml, spice quantities multiplied by $\frac{11}{4}$.
(b) 6 people.
(c) Chicken 600 g, rice 300 g, coconut milk 450 ml, spice quantities multiplied by $\frac{3}{2}$.

Direct Proportion

1. £1.68
2. 420 km
3. 12 litres
4. 6 m
5. 3 kg

Best Buys

1. The 350 g pack.
2. The pack of 30.
3. The 5 litre bottle.
4. Option C.
5. Company X, by £7.50.

Scaling

1. 3.5 m
2. 4.2 km
3. 80 cm by 60 cm, or 0.8 m by 0.6 m
4. 1 : 15
5. (a) 19 km
(b) 1 : 125000
(c) Neither; the scales are the same.
6. A rectangle 6 cm by 4.5 cm.

Rates of Change

1. 30 km/h
2. 22.5 minutes, or 22 minutes 30 seconds
3. Average speed including stop: 71.1 km/h; average speed while moving: 73.8 km/h
4. 384 g
5. (a) 67.5 miles
(b) 45 mph

Problem Solving With Ratios

1. 70 blue marbles
2. 6 oranges
3. Sugar : flour : butter = 2 : 9 : 3
4. £480
5. 20 cm
6. $\frac{24}{59}$
7. 96 blue marbles