

Ratio & Proportion

Year 9 · Ratio & Proportion · y9-ratio-simplify

Name: _____

Date: _____

Class: _____

Score: ____ / ____

Instructions

Answer every question in Practice. Try the Challenge section once Practice is complete. 10 questions in total.

Practice

1. A car travels 240 km on 20 litres of fuel. How far can it travel on 35 litres?

2. A recipe for 4 people requires 300 g of flour. How many grams of flour are needed for 10 people?

3. A map uses the scale 1:25 000. A road measures 8 cm on the map. What is the actual length of the road in km? Hint: $8 \times 25\,000 = 200\,000$ cm. Convert cm to km.

4. A car uses 12 litres of fuel to travel 180 km. A van uses 20 litres to travel 260 km. Which vehicle has the better fuel efficiency? Type 'car' or 'van'.

5. A direct proportion graph has equation $y = kx$. The point (4, 20) lies on the graph. Find the value of k .

6. An inverse proportion graph has equation $y = k/x$. The point (3, 12) lies on the graph. Find the value of k .

7. Variables p and q are in direct proportion. When $p = 5$, $q = 8$. When $p = 10$, $q = 16$. The ratio q/p is constant. Find the value of q when $p = 15$.

8. A direct proportion graph passes through (0, 0) and (6, 15). Find the value of y when $x = 10$.

Challenge

1. A 450 g mixture is 20% salt by mass. After 150 g of water evaporates, what percentage of the new mixture is salt?

2. An inverse proportion graph passes through (2, 18). Find the value of y when $x = 12$.
