

Multi-step Ratio Problems, Best-Buy Comparison and Recipe Scaling

Year 10 · Ratio & Proportion · y10-ratio-share

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 recipe for 4 people needs 300 g of pasta. How much pasta is needed for 10 people?

2. Brand A: 750 g for £2.25. Brand B: 900 g for £2.88. Find the price per 100 g for each and state which brand is better value (A or B).

3. A recipe for 6 people needs 450 g of flour, 200 g of sugar, and 3 eggs. Scale the recipe for 9 people: how much flour is needed?

4. £360 is shared among three people in the ratio 2:3:4. The person with 3 parts then gives half of their share to the person with 2 parts. How much does the person with 2 parts have now?

5. In a school, the ratio of boys to girls is 4:5. There are 180 pupils in total. Then 20 more girls join. Find the new ratio of boys to girls in its simplest form.

6. Work through each step of a multi-step ratio problem in order, updating amounts as you go. £500 is shared in the ratio 1:4 (Amy:Ben). Ben then shares his amount with Cara in the ratio 3:2 (Ben:Cara). How much does Cara receive?

7. To compare value, convert both to the same unit (e.g. price per 100 g), not just compare the total prices. Shop X: 500 g for £3.00. Shop Y: 800 g for £4.40. Which is better value?

8. All ingredients must be scaled by the same factor. A recipe for 8 people uses 640 g of rice. How much rice is needed for 5 people?

Challenge

1. A recipe for 15 people uses 750 g of flour, 300 g of butter, and 450 g of sugar. Find the amount of butter needed to serve 25 people.

2. £1200 is shared among four people in the ratio 1:2:3:4. The person with the largest share then gives $\frac{1}{3}$ of their share to the person with the smallest share. How much does the person with the smallest share have now?
