



Reasoning Problems

Gold

These Gold Reasoning questions combine several maths skills in longer, multi-step problems - genuine SATs-level stretch.

Name: _____ Date: _____

Section A: Multi-Step Word Problems

1. A school trip costs £850 for the coach, plus £12.50 per pupil for entry. If 40 pupils attend, what is the total cost, and what is the cost per pupil if shared equally?

2. A tank is filled at a rate of 15 litres per minute. How long will it take to fill a 450-litre tank, and how many litres will be in the tank after 12 minutes?

3. A recipe for 8 people uses 600g of flour and 300g of sugar. If you only have 450g of flour, how much sugar do you need to keep the ratio the same, and how many people can you feed?

4. A shop has a sale: "Buy 3, get the cheapest free." Three items cost £12, £8, and £5. What is the total after the discount?

5. A car's value decreases by 15% each year. If it is worth £20,000 now, what will it be worth after 1 year, correct to the nearest pound?

Section B: Ratio, Algebra & Data Combined

1. A recipe uses flour, sugar, and butter in the ratio 4:2:1. If there is 120g of butter, how much flour and sugar are needed?

2. If $3x + 5 = 26$, what is x ? Then find the value of x^2 .

3. A number machine multiplies by 3 then subtracts 7. If the output is 20, what was the input?

4. A pie chart shows a school's 300 pupils by year group: Year 3 is 20%, Year 4 is 25%, Year 5 is 30%, and the rest are Year 6. How many pupils are in Year 6?

5. Two numbers have a ratio of 5:3 and a sum of 96. What are the two numbers?

