

## Ratio and Proportion Problems

### Set C

- 1) 2 parts of red paint mixed with 3 parts of blue paint make purple paint.
- What is the maximum amount of purple paint that can be made from 50 ml of red paint and 100ml of blue?

- 2) A recipe for jam uses 55 g of fruit for every 100 g of jam.  
I want to make ten 454 g jars of jam.
- How many grams of fruit do I need?



- 3) A boy guessed the lengths of some objects. He divided each guessed length by the measured length to produce an accuracy ratio. The accuracy ratio for object A is 0.71: 1 (to 2 d.p.).
- Find the accuracy ratio for each other guess.
  - Which guess was the most accurate?
  - Which guess was the least accurate?

|    | Guess | Actual length |
|----|-------|---------------|
| A. | 5 cm  | 7 cm          |
| B. | 40 cm | 53 cm         |
| C. | 3 m   | 2 m           |
| D. | 10 m  | 7.8 m         |
| E. | 20 m  | 25 m          |

- 4) Prisms A and B have the same cross-sectional area.  
Prism A is 5 cm high and has a volume of 200 cm<sup>3</sup>.
- What is the volume of prism B?



- 5) Take a two-digit number. Reverse the digits. Is it possible to make a number that is one-and-a half times as big as the original number?
- Justify your answer.
  - Find a two-digit number that is one-and-three quarters times as big when you reverse its digits.

- 6) The Queen Mary used to sail across the Atlantic. Its usual speed was 33 miles per hour. On average, it used fuel at the rate of 1 gallon for every 13 feet sailed.
- Calculate, to the nearest gallon, how many gallons of fuel the ship used in one hour of travelling at its usual speed. (There are 5280 feet in one mile.)