

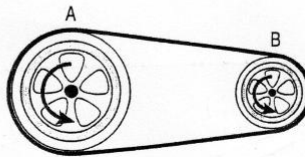
## Ratio 1

- In a country dance there are 7 boys and 6 girls in every line.  
42 boys take part in the dance.  
How many girls take part?
- Some children voted between a safari park and a zoo for a school visit. The result was 10 : 3 in favour of the safari park.  
130 children voted in favour of the safari park.  
How many children voted in favour of the zoo?
- The risk of dying in any one year from smoking is about 1 in 200 of the population.  
The population of the UK is about 58 million.  
How many people are likely to die this year from smoking?
- A boy had £35 in birthday money.  
He spent some of the money.  
He saved four times as much as she spent.  
How much did he save?
- There are 3 chocolate biscuits in every 5 biscuits in a box.  
There are 30 biscuits in the box.  
How many of them are chocolate biscuits?
- A recipe for mushroom soup uses 7 mushrooms for every  $\frac{1}{2}$  litre of soup.  
How many mushrooms do you need to make 2 litres of soup?  
How much soup can you make from 21 mushrooms?
- 10 bags of crisps cost £3.50.  
What is the cost of 6 bags of crisps?
- £1 = 12.40 Danish kroner.  
How much is £1.50 in Danish kroner?

## Ratio 2

- To make orange paint, you mix 13 litres of yellow paint to 6 litres of red paint to 1 litre of white paint. How many litres of each colour do you need to make 10 litres of orange paint?
- Flaky pastry is made by using flour, margarine and lard in the ratio 8 : 3 : 2 by weight. How many grams of margarine and lard are needed to mix with 200 grams of flour?
- A square and a rectangle have the same area. The sides of the rectangle are in the ratio 9 : 1. Its perimeter is 200 cm. What is the length of a side of the square?
- The chocolate bars in a full box weighed 2 kg in total. Each bar was the same size. Eight of the bars were eaten. The bars left in the box weighed 1.5 kg altogether. How many chocolate bars were in the original box?

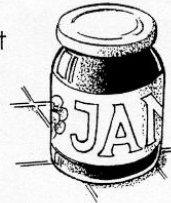
- A and B are two chain wheels.



- For every 2 complete turns that wheel A makes, wheel B makes 5 complete turns. Wheel A makes 150 turns. How many turns does wheel B make?
- A 365 g packet of coffee costs £2.19. How much per 100 g of coffee is this?
  - £1 is worth 3 Australian dollars (A\$). A girl changed £50 into Australian dollars, went on holiday to Australia and spent A\$ 96. At the end of the holiday she changed the Australian dollars back into £. How much did she get?
  - The cost of a take-away pizza is £6. A pie chart is drawn to show how the total cost is made up. The cost of labour is represented by a sector of  $252^\circ$  on the pie chart. What is the cost of labour?
  - Cinema tickets for one adult and one child cost a total of £11.55. The adult's ticket is one-and-a-half times the price of the child's ticket. How much does each ticket cost?

## Ratio 3

- 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 100 ml of blue?
- 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?

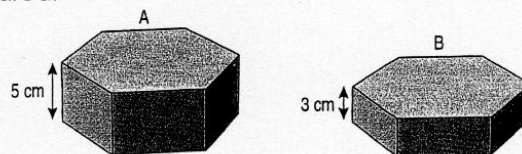
- A boy guessed the lengths of some objects.

|    | 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          |

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?

- Prisms A and B have the same cross-sectional area.



Prism A is 5 cm high and has a volume of  $200 \text{ cm}^3$ .  
What is the volume of prism B?

- 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.
- 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.)*