



## RESOURCE: 17

### WORDED PROBLEMS

This resource is for Maths 10-15 years old.

*Show working (thinking) in each question, not just an answer 😊*

**1) General math Q:**

A boat weighs 1200kg. Four people got into the boat and it now weighs 1440kg.  
If all people weighed the same, how much did each person weigh?

*Hint: Draw a picture if it helps to see what is happening*

**2) Percentage:**

What is 25% of 76?

**3) Percentage:**

What is 4% of 200?

*Hint: really think about the decimal for this one.*

**4) Percentage:**

20% of a bag of lollies are jelly snakes. The rest are red frogs. If there are 80 lollies in the bag, how many are frogs?

**5) Ratio:**

Split up 60m into the ratio 4:2

*Remember to do "Total parts" first in all ratio questions*

**6) Ratio:**

There are cows and sheep in a paddock at a ratio of 2:5

a) If there are 10 sheep, how many cows are there?

*Hint: look at what happened to the sheep number in the ratio and do the same to the cows part*

b) If there are 28 animals, how many are sheep?

*Hint: use a fraction*

**7) Ratio:**

Belinda splits up her money into savings and spending in the ratio of 3:2. If Belinda earns \$800, how much would she save?

Total parts =

Fraction for saving =

Saving amount (\$) =

## ANSWERS / WORKING OUT 😊

### 1) General math Q:

A boat weighs 1200kg. Four people got into the boat and it now weighs 1440kg.

If all people weighed the same, how much did each person weigh?

Step 1: Find the difference in weight

$$1440 - 1200 = 240\text{kg}$$

Step 2: Find the weight per person

$$240\text{kg} / 4 \text{ people} = 60 \text{ kg}$$

### 2) Percentage:

What is 25% of 76?

$$25\% \text{ as a decimal first} = 25 / 100 = 0.25$$

"of" in maths = multiply

$$0.25 \times 76 = 19$$

### 3) Percentage:

What is 4% of 200?

4% as a decimal = 0.04 (expected error - 0.4.

This would be 40% so is not correct)

$$0.04 \times 200 = 8$$

### 4) Percentage:

20% of a bag of lollies are jelly snakes. The rest are red frogs. If there are 80 lollies in the bag, how many are frogs?

Jelly snakes = 20% of 80

$$= 0.2 \times 80$$

$$= 16$$

Red frogs = 80 - 16

$$= 64$$

### 5) Ratio:

Split up 60m into the ratio 4:2

$$\text{Total parts} = 4 + 2 = 6$$

Look at what needs to happen to total parts to get to 60m:

$$60\text{m} / 6 = 10$$

So each part of the ratio needs to be multiplied by 10

So, 4:2 turns into 40:20

### 6) Ratio:

There are cows and sheep in a paddock at a ratio of 2:5

$$\text{Total parts} = 2 + 5 = 7$$

a) If there are 10 sheep, how many cows are there?

Rewrite the ratio so you can write "cows" and "sheep" above each part

Remember, ratios are written in the same way they are listed in words (2:5, "cows and sheep", so 2 = cows part and 5 = sheep part)

Cows Sheep

$$2 : 5$$

Sheep was 5  $\rightarrow$  10 multiplied by 2

$$\text{Cows} = 2 \times 2 = 4$$

4 cows 😊 (new ratio 4:10)

b) If there are 28 animals, how many are sheep?

Fraction for sheep =  $5/7$

Sheep = Fraction  $\times$  total animals

$$= 5/7 \times 28$$

$$= 20 \text{ sheep}$$

### 7) Ratio:

Belinda splits up her money into savings and spending in the ratio of 3:2. If Belinda earns \$800, how much would she save?

Saving Spending

$$3 : 2$$

Total parts = 3 + 2 = 5

Fraction for saving =  $3/5$

Saving amount (\$) = Fraction  $\times$  wages

$$= 3/5 \times 800$$

$$= \$480$$