

**GCSE - Numeracy and Mathematics**

**Topic: Ratios and Proportion**

**Tier: Intermediate**

**Grade:**

D/C



**Starter:**

Simplify the ratios below:

- 1) 8:10
- 2) 55:70
- 3) 120:200
- 4) 28:42

**Top Tips!**

e.e. Sion worked for 3 hours and Elin for 2 hours.. They got paid a total of £70. Share th money fairly.

**Step 1:** How many parts are there in total?

$$2+3=5$$

**Step 2:** What is the value of one part?

$$70 \div 5 = 14$$

**Step 3:** Multiply to calculate everyones part

$$Sion = 3 \times 14 = \text{£}42$$

$$Elin = 2 \times 14 = \text{£}28$$

**Step 4:** Check by adding

$$42 + 28 = 72 \checkmark$$

Sion : Elin

3 : 2

Remember that the order is important in a ratio e.g. 2:3 or 3:2

**Skills:**

- 1. 55g of flour is enough to make 4 pancakes. If 110g=4oz, then how many oz of flour is required to make 48 pancakes?
- 2. Share £132 betwen Math, Llew and Deio in the ratio 1:3:2
- 3. The distance between two towns on a map is 3.2cm. The scale of the map is 1:50000. What's the real distance in Km?

**Examination Question:**

**Ratio - 2015 January Link - Applications U1 Higher Qu 3, 2014 January Link - Applications U2 Higher Qu 4**

Seven friends hire a boat, **The Wave**, to explore where dolphins swim.

The cost of hiring **The Wave** for a week is £2380.

Two sponsors, *Connelly Boats* and *Water Watch*, pay part of the hire cost.

The cost of hiring **The Wave** is shared in the ratio 2 : 3 : 5 with

- *Connelly Boats* paying the **smallest** share
- *Water Watch* paying the **largest** share
- The seven friends sharing the remaining cost equally.

How much does *Connelly Boats* pay?

How much does *Water Watch* pay?

How much does each of the seven friends pay?

You must show all your working. [6+2]



**Assessment for Learning**

**Video / QR code**



Tier: Intermediate

Grade:

D/C



### Starter:

Simplify the ratios below:

- 1)  $8:10 = 4:5$
- 2)  $55:70 = 11:14$
- 3)  $120:200 = 3:5$
- 4)  $28:42 = 2:3$

### Top Tips!

e.e. Sion worked for 3 hours and Elin for 2 hours.. They got paid a total of £70. Share th money fairly.

**Step 1:** How many parts are there in total?

$$2+3=5$$

**Step 2:** What is the value of one part?

$$70 \div 5 = 14$$

**Step 3:** Multiply to calculate everyones part

$$\text{Sion} = 3 \times 14 = \text{£}42$$

$$\text{Elin} = 2 \times 14 = \text{£}28$$

**Step 4:** Check by adding

$$42 + 28 = 72 \checkmark$$

Remember that the order is important in ratio e.g. 2:3 or 3:2

Sion : Elin

3 : 2

### Skills:

1. 55g of flour is enough to make 4 pancakes. If 110g=4oz, then how many oz of flour is required to make 48 pancakes?  
 $55\text{g} = 2\text{oz}$  (4 pancakes)  
( $4 \times 12 = 48$ )  
 $2\text{oz} \times 12 = 24\text{oz}$
2. Share £132 betwen Math, Llew and Deio in the ratio 1:3:2  
 $1+3+2=6$   
 $132/6 = 22$   
 $\text{Math} = 1 \times 22 = \text{£}22$   
 $\text{Llew} = 3 \times 22 = \text{£}66$   
 $\text{Deio} = 2 \times 22 = \text{£}44$   
 $22+44+66 = 132$
3. The distance between two towns on a map is 3.2cm. The scale of the map is 1:50000. What's the real distance in Km?  
 $3.2 \times 50000 = 160\,000\text{cm}$   
 $160\,000 / 100 = 1600\text{m}$   
 $1600 / 1000 = 1.6\text{Km}$

### Examination Question:

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You must show all your working. [6+2]



Total number of parts =  $2+3+5 = 10$  parts

Value of 1 part =  $2380/10 = \text{£}238$

CB contribute:  $238 \times 2 = \text{£}476$

WW contribute:  $238 \times 5 = \text{£}1190$

7 friends contribution:  $238 \times 3 = \text{£}714$

Each friend contributes:  $714/7 = \text{£}102$

### Assessment for Learning

Video / QR code



