

Ratio help sheet

Name _____ Date _____

Ratio shows how many things of one type there are compared to another.
For example, if there are 3 red towels to every 1 white towel the ratio of red to white towels is 3:1

Ratio Sharing



A quantity is divided into equal parts. The equal parts are then distributed in an uneven way.

For example, a pizza is divided into 8 equal pieces. If John has 3 pieces and Paul has 5 pieces, you can say that the pizza is shared in the ratio of 3 to 5. You write this as **3:5**

You can often recognise ratio sharing problems by the word 'times'.

Example 1

Ben and Tom collect £400. Ben collects seven times as much money as Tom.

How much did each of them collect?

Work out the problem in steps.

1) **Let the smaller share = 1 part** (Tom)

2) **Work out the larger share.**

In this case the larger share is seven times greater. $1 \times 7 = 7$ parts (Ben)

3) **Add up the number of parts.** $1 + 7 = 8$

4) **To find the value of one part, divide the total amount by the number of parts.**

$£400 \div 8 = £50$

5) **Multiply each quantity by the value of one part.**

The smaller share (1 part) = $1 \times £50$

The larger share (7 parts) = $7 \times £50 = £350$

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Answer. Tom collected £50 and Ben collected £350.

Example 2

John scored twice as many goals as Fred. Fred scored three times more than Alec.

If they scored 40 goals altogether, how many goals did they score each?

Smallest share = 1 (Alec)

Second share = 3 (Fred), 3 times more than Alec (3 x 1)

Third share = 6 (John), 2 times more than Fred (2 x 3)

So, the total number of parts = $1 + 3 + 6 = 10$

Each part = 4 (40 goals \div 10 parts)

Therefore Alec = 4 (1 x 4), Fred = 12 (3 x 4), John = 24 (6 x 4)

Answer. Alec scored 4 goals, Fred scored 12 goals, John scored 24 goals.

Example 3

At a concert, there were 2400 adults. 3 women attended for every 2 men.

How many women were at the concert?

The ratio of women to men is 3:2

This means that for every 5 people, 3 are women.

So $\frac{3}{5}$ of the audience are women.

Apply the rules of fractions:

$$\frac{1}{5} \text{ of } 2400 = 2400 \div 5 = 480$$

$$\text{So } \frac{3}{5} \text{ of } 2400 = 3 \times 480 = 1440$$

Answer. 1440 women attended the concert.