

Ratio and Recipes

Example 1 - Simple Ratio

Jack and Kevin share 28 sweets in the ratio 4:3 respectively. How many sweets does each boy receive?

$$4+3 = 7 \text{ shares}$$

$$28 \text{ sweets} = 7 \text{ shares}$$

$$\frac{28}{7} = 1 \text{ share}$$

$$4 = 1 \text{ share}$$

$$\text{Jack receives } 4 \times 4 = 16$$

$$\text{Kevin receiving } 3 \times 4 = 12$$

Example 2 - Simple Ratio

Alan, Bill and Colin share £20 in the ratio 5:3:2 respectively. How much does each boy receive?

$$5+3+2 = 10 \text{ parts}$$

$$1 \text{ part} = \text{£}20 \div 10 = \text{£}2$$

$$\text{Alan } 5 \times 2 = \text{£}10$$

$$\text{Bill } 3 \times 2 = \text{£}6$$

$$\text{Colin } 2 \times 2 = \text{£}4$$

Example 3 - Simple Ratio

Brass is made from Copper and Zinc in the ratio 5:3.
How much Brass could be made using 40g of Copper,
and how much Zinc would be needed?

$$\text{Copper } 40\text{g} = 5 \text{ parts}$$

$$\frac{40}{5} = 8\text{g} = 1 \text{ part}$$

$$\text{Zinc} = 3 \text{ parts} = 3 \times 8\text{g} = 24\text{g}$$

$$\text{Brass} = 5+3 = 8 \text{ parts} = 8 \times 8\text{g} = 64\text{g}$$

Example 4 - Simple Ratio

The ratio of males to females in a gym membership
is 7:4. If there are 32 female members, how many
male members are there?

$$\text{Females } 32 = 4 \text{ parts}$$

$$\frac{32}{4} = 8 = 1 \text{ part}$$

$$\text{Males } 7 \times 8 = 56$$

Example 5 - Recipes

Fruit pie ingredients for 4 people are as follows:

80 g plain flour

60 g ground almonds

90 g soft brown sugar

60 g butter

4 ripe pears

What ingredients are required for 6 people?

$$6 \text{ is } 4 \times 1\frac{1}{2}$$

Multiply quantities by $1\frac{1}{2}$

$$80 + 40 = 120 \text{ g flour}$$

$$60 + 30 = 90 \text{ g almonds}$$

$$90 + 45 = 135 \text{ g sugar}$$

$$60 + 30 = 90 \text{ g butter}$$

$$4 + 2 = 6 \text{ pears}$$

Example 6 - Recipes

Chocolate Chip Cookies - Ingredients for 10 cookies:

100 g of flour

60 g of sugar

50 g of margarine

40 g of chocolate chips

2 eggs

What ingredients are required for 25 cookies?

$100 + 100 + 50 = 250$ g of flour
 $60 + 60 + 30 = 150$ g of sugar
 $50 + 50 + 25 = 125$ g of margarine
 $40 + 40 + 20 = 100$ g of choc chips
 $2 + 2 + 1 = 5$ eggs
