

S2 E+/E

Unit 6 - Ratio/Proportion

Homework Exercise

1. Copy and then rewrite these ratios in their simplest form :

(a) $24 : 36$ (b) $£8 : £44$ (c) $100 \text{ m} : 2 \text{ km}$ (d) $2\frac{1}{2} : \frac{1}{2}$ (e) $3 \text{ hrs.} : 30 \text{ mins.}$

2. Share :

(a) $£24$ in the ratio $3 : 1$ (b) 500 kg in the ratio $7 : 3$ (c) $£52$ in the ratio $11 : 2$

3. Nicola and Kelly have $£10\,000$ to share in the ratio $3 : 2$.
How much do they each receive ?

4. Material for clothing is made by mixing cotton, nylon and wool in the ratio $4 : 2 : 3$.

(a) How much nylon is needed to make 270 kg of this material ?

(b) Philip works in the factory making this material. For one batch he uses 15 kg wool.
How much of the finished material would be made using this ?

(c) At the end of a week, Philip has 28 kg cotton, 12 kg nylon, and 20 kg wool left.
What is the maximum amount of material he could manufacture with this ?

5. Katie is cooking. Following a recipe, she needs 4 eggs to make a dish serving 6 people.
However, Katie is expecting 9 more than this for dinner.
How many extra eggs are needed ?

6. Jennifer is painting her bedroom. Dougal and Lisa are helping her. They all paint at the same rate. Jennifer calculates that it will take 6 hours for the 3 of them to do the job.

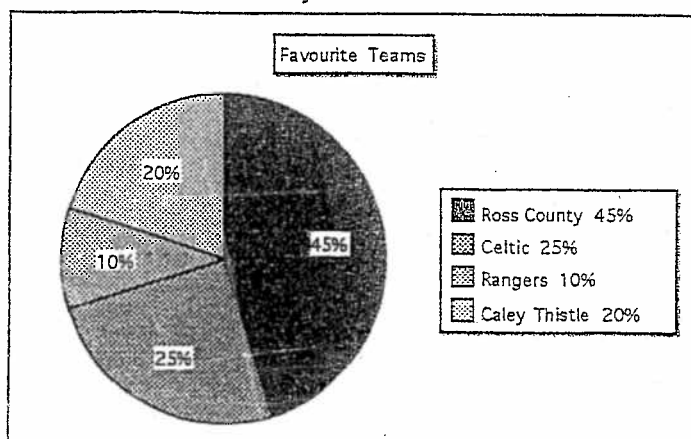
However, they manage to persuade Eilidh to help as well.

(a) How much time will Eilidh's help save ?

(b) How long would it take if only Jennifer and Lisa painted ?



7. A survey of people in Ross-shire was carried out. Each person was asked what football team they followed. Results are shown in the pie chart below :



180 of the people surveyed were Ross County supporters.

(a) How many people were surveyed ?

(b) How many supported each team ?