

Ratio Sharing Models Mastery

Practice Worksheet (Compact Layout)

I DO

Alex, Ben, and Chloe share some money in the ratio 2 : 5 : 9.

Chloe receives £35 more than Alex.

Work out how much money Ben receives.

WE DO 1

Model 1: Given the Total

Paul, Steve, and Anna share £80 in the ratio 3 : 2 : 5.

Work out how much money Anna receives.

WE DO 2

Model 2: Given One Person's Amount

Mark, Ryan, and Emily share some money in the ratio 4 : 7 : 2.

Ryan receives £42.

Work out how much money Mark receives.

WE DO 3

Model 3: Given the Difference

Paige, Isla, and Paulo share some sweets in the ratio 5 : 3 : 8.

Paulo gets 20 more sweets than Isla.

Work out the **total** number of sweets shared.

YOU DO 1

Mia, Noah, and Olivia share some money in the ratio 3 : 7 : 8.
Olivia receives £30 more than Mia.

Work out how much money Noah receives.

YOU DO 2

Zack, Yasmin, and Xander share £132 in the ratio 4 : 5 : 2.

Work out how much money Yasmin receives.

YOU DO 3

Sam, Tom, and Uma share some money in the ratio 2 : 9 : 4.
Tom receives £54.

Work out the **total** amount of money shared.

CHALLENGE

Alice, Bob and Charlie share some money.

Alice gets $\frac{2}{5}$ of the total amount.

The rest of the money is shared between Bob and Charlie in the ratio 3 : 1.

Alice receives £20 more than Charlie.

Work out how much money Bob receives.

ANSWERS & WORKED SOLUTIONS

I Do

Step 1: Find the difference in parts between Chloe and Alex: $9 - 2 = 7$ parts.

Step 2: Calculate the value of 1 part: $£35 \div 7 = £5$.

Step 3: Calculate Ben's share: $5 \text{ parts} \times £5 = £25$. **Answer: £25**

We Do 1

Step 1: Find the total number of parts: $3 + 2 + 5 = 10$ parts.

Step 2: Calculate the value of 1 part: $£80 \div 10 = £8$.

Step 3: Calculate Anna's share: $5 \text{ parts} \times £8 = £40$. **Answer: £40**

We Do 2

Step 1: Ryan has 7 parts. Calculate the value of 1 part: $£42 \div 7 = £6$.

Step 2: Calculate Mark's share: $4 \text{ parts} \times £6 = £24$. **Answer: £24**

We Do 3

Step 1: Find the difference in parts between Paulo and Isla: $8 - 3 = 5$ parts.

Step 2: Calculate the value of 1 part: $20 \div 5 = 4$ sweets.

Step 3: Find the total parts ($5 + 3 + 8 = 16$) and multiply by 4: $16 \times 4 = 64$. **Answer: 64 sweets**

You Do 1

Step 1: Difference in parts (Olivia and Mia): $8 - 3 = 5$ parts.

Step 2: Value of 1 part: $£30 \div 5 = £6$.

Step 3: Noah's share: $7 \text{ parts} \times £6 = £42$. **Answer: £42**

You Do 2

Step 1: Total parts: $4 + 5 + 2 = 11$ parts.

Step 2: Value of 1 part: $£132 \div 11 = £12$.

Step 3: Yasmin's share: $5 \text{ parts} \times £12 = £60$. **Answer: £60**

You Do 3

Step 1: Tom has 9 parts. Value of 1 part: $£54 \div 9 = £6$.

Step 2: Total parts: $2 + 9 + 4 = 15$ parts.

Step 3: Total money: $15 \times £6 = £90$. **Answer: £90**

Challenge

Step 1: Alice gets $\frac{2}{5}$ of the total. The remaining fraction is $\frac{3}{5}$.

Step 2: Bob and Charlie share the $\frac{3}{5}$ in the ratio 3:1 (which is 4 parts).

Step 3: To make the fractions easy to divide by 4, change $\frac{3}{5}$ to $\frac{12}{20}$. This means the total is $\frac{20}{20}$.

Step 4: Alice gets $\frac{2}{5} = \frac{8}{20}$. The remaining $\frac{12}{20}$ is split 3:1. Bob gets $\frac{9}{20}$, Charlie gets $\frac{3}{20}$.

Step 5: The overall ratio Alice : Bob : Charlie is 8 : 9 : 3.

Step 6: Difference between Alice and Charlie: $8 - 3 = 5$ parts.

Step 7: 5 parts = £20, so 1 part = £4.

Step 8: Bob receives 9 parts: $9 \times £4 = £36$. **Answer: £36**