RATIO: SHARING A TOTAL

BUILDING BLOCKS

NAME _____ CLASS _____ DATE _____

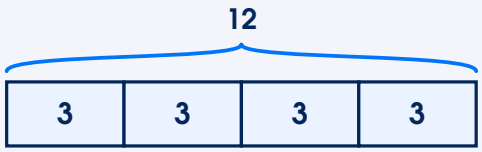
KEY IDEA

To share into equal parts, divide.

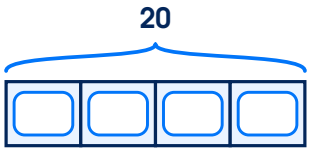
12 shared into 4 equal parts:

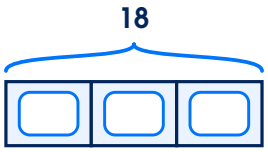
12 ÷ 4 = 3

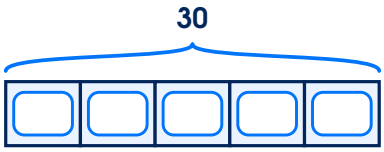
Each part is worth 3.



1 Write the value of each equal part.

a) 

b) 

c) 

2 Ali and Bea share 10 sweets. For every 1 sweet Ali gets, Bea gets 4.

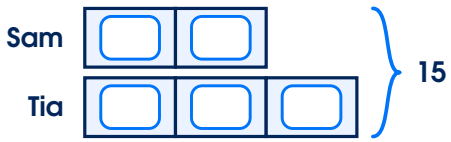


■ = Ali's sweets ● = Bea's sweets

a) How many sweets does Ali get? ☐

b) How many does Bea get? ☐

3 Sam and Tia share 15 sweets in the ratio 2 : 3.

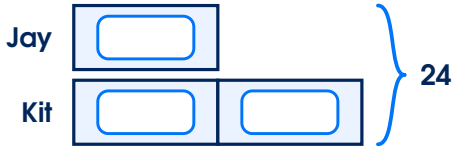


a) Parts altogether: 2 + 3 = ☐

b) One part: 15 ÷ ☐ = ☐

c) Sam gets ☐ Tia gets ☐

4 Jay and Kit share 24 stickers in the ratio 1 : 2. Fill in the bar model.



a) Jay gets ☐

b) Kit gets ☐

RATIO: SHARING A TOTAL

SUPPORT

NAME _____ CLASS _____ DATE _____

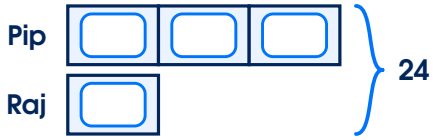
KEY IDEA

Share £35 between Ava and Ben in the ratio 2 : 5.



1 **Parts: 2 + 5 = 7**
2 **One part: £35 ÷ 7 = £5**
3 **Ava: 2 × £5 = £10**
Ben: 5 × £5 = £25

1 Pip and Raj share 24 cupcakes in the ratio 3 : 1.

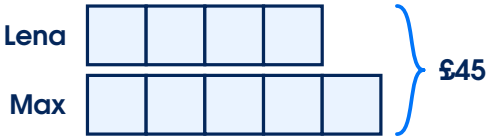


a) Parts altogether: 3 + 1 = ☐

b) One part: 24 ÷ ☐ = ☐

c) Pip gets ☐ Raj gets ☐

2 Lena and Max share £45 in the ratio 4 : 5.



a) One part = £ ☐

b) Lena gets £ ☐ Max gets £ ☐

3 Nia and Owen share 28 marbles in the ratio 3 : 4. Draw a bar model to help you.

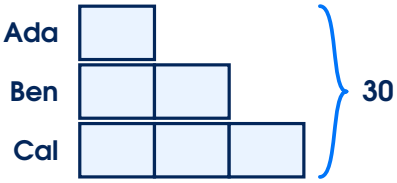
Draw your bar model here.

Parts altogether ☐

One part ☐

Nia gets ☐ Owen gets ☐

4 Ada, Ben and Cal share 30 stickers in the ratio 1 : 2 : 3.



Ada gets ☐

Ben gets ☐

Cal gets ☐

RATIO: SHARING A TOTAL

CORE

NAME _____ CLASS _____ DATE _____

KEY IDEA

Add the parts, divide the whole by the number of parts to find one part, then multiply. Check the shares add up to the whole.

FLUENCY

1 Share each amount in the ratio given.

a) £48 in 5 : 3

☐ and ☐

b) 72 kg in 7 : 2

☐ and ☐

c) 90 in 2 : 3 : 4

☐ , ☐ and ☐

d) £13 in 1 : 4

☐ and ☐

2 In a school of 630 students, the ratio of walkers to bus users is 4 : 3.

a) How many students walk to school?

☐

b) How many more walk than come by bus?

☐

REASONING

3 Can the given amounts be shared in the ratio 2 : 3 with nothing left over? Circle YES or NO.

a) 14 counters (YES) (NO)

Explain: .....

b) £30 (YES) (NO)

Explain: .....

4 Leo shares £60 in the ratio 3 : 2 and gets the larger share. Here is his working.

3 + 2 = 5 60 ÷ 5 = 12 So I get £12.

Correct: £ ☐ and £ ☐

Explain Leo's mistake. .....

RATIO: SHARING A TOTAL

GREATER DEPTH

NAME _____ CLASS _____ DATE _____

REASONING

1 Is each statement always, sometimes or never true? Circle your answer.

If it is sometimes true, give an example of when it is true and when it is not.

a) Sharing in 2 : 4 gives the same shares as 1 : 2. ALWAYS SOMETIMES NEVER

b) Sharing £20 in a ratio gives whole-pound shares. ALWAYS SOMETIMES NEVER

c) If $a < b$, the first share in $a : b$ is under half. ALWAYS SOMETIMES NEVER

d) If you double the amount shared, each share doubles. ALWAYS SOMETIMES NEVER

PROBLEM SOLVING

2 Share 2.4 litres of juice in the ratio 5 : 3. Give your answers in millilitres.

Larger share ____ ml Smaller share ____ ml

3 Ana, Bo and Cy share £96 in the ratio 1 : 3 : 4.

a) At first: Ana £ ____ Bo £ ____ Cy £ ____

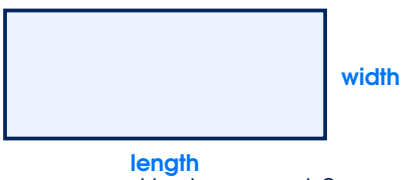
b) Then Cy gives Ana £12. New ratio Ana : Bo : Cy in its simplest form ____

★ CHALLENGE FOR ALL

4 A rectangle has a perimeter of 56 cm. The ratio length : width is 5 : 2.

a) length = ____ cm width = ____ cm

b) area = ____ cm^2



c) A square has the same perimeter. Which shape has the larger area, and by how much?

STEP 2 ANSWERS – RATIO: SHARING A TOTAL

ANSWERS

BUILDING BLOCKS

1 a) 5 in each part · b) 6 in each part · c) 6 in each part
2 a) Ali gets 2 · b) Bea gets 8
3 Each part of the bars is 3. · a) 5 · b) 15 ÷ 5 = 3 · c) Sam gets 6, Tia gets 9
4 Each part is 8. · a) Jay gets 8 · b) Kit gets 16

SUPPORT

1 Each part of the bars is 6. · a) 3 + 1 = 4 · b) 24 ÷ 4 = 6 · c) Pip gets 18, Raj gets 6
2 a) £5 · b) Lena gets £20, Max gets £25
3 7 parts · one part = 4 · Nia gets 12, Owen gets 16
4 One part = 5 · Ada 5 · Ben 10 · Cal 15

CORE

1 a) £30 and £18 · b) 56 kg and 16 kg · c) 20, 30 and 40 · d) £2.60 and £10.40
2 a) 360 students walk · b) 90 more (bus = 270)
3 a) NO – 14 ÷ 5 = 2.8, so the counters would have to be cut. · b) YES – £30 ÷ 5 = £6, so £12 and £18
4 Leo found one part (£12) but forgot to multiply by 3. Correct shares: Leo £36 and his sister £24.

GREATER DEPTH

1 a) Always · b) Sometimes – 1 : 3 gives £5 and £15; 1 : 2 gives £6.67 and £13.33 · c) Always · d) Always – one part doubles, so every share doubles
2 1500 ml and 900 ml
3 a) Ana £12, Bo £36, Cy £48 · b) £24 : £36 : £36 = 2 : 3 : 3
4 a) length 20 cm, width 8 cm · b) 160 cm² · c) The square (side 14 cm) has area 196 cm², which is 36 cm² more.