

WA6MNACN5

Calculating with number

Core + Challenge

Fraction of an Amount

I can find a fraction of a whole number using bar models and sets, and work backwards from a part.

Name: _____ Date: _____ Score: _____ / 56

Key idea

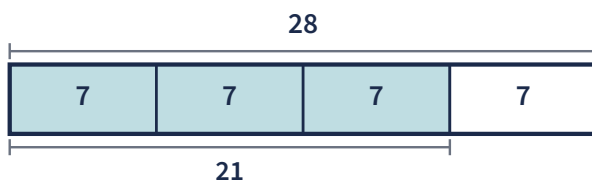
To find a fraction of an amount, **divide** by the denominator to find one part. Then **multiply** by the numerator.

Example: $\frac{3}{4}$ of 28: $28 \div 4 = 7$ (one quarter), then $3 \times 7 = 21$.

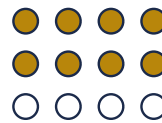
A **bar model** shows this: the whole bar is 28, cut into 4 equal parts of 7. Three parts are 21.

Working backwards: if $\frac{1}{3}$ of a number is 8, the whole number is $3 \times 8 = 24$.

$\frac{3}{4}$ of 28 = 21



$\frac{2}{3}$ of 12 = 8



A

Warm up circle sets and complete bar models

/ 16 marks

Shade or circle the fraction of the set. Write how many. 1 mark each.

1 $\frac{1}{3}$ of 12 =



2 $\frac{3}{4}$ of 8 =



3 $\frac{2}{5}$ of 15 =



4 $\frac{5}{6}$ of 12 =



5 $\frac{1}{8}$ of 16 =



6 $\frac{2}{3}$ of 18 =



7 $\frac{3}{10}$ of 20 =



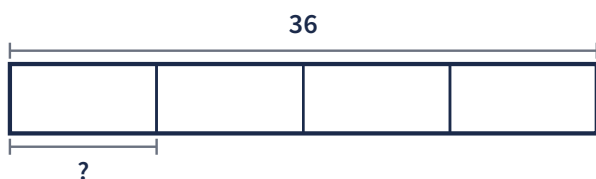
8 $\frac{3}{8}$ of 24 =



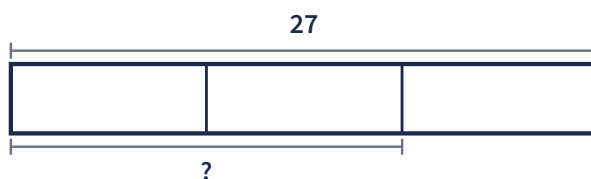
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Write the value of each part in the bar model. Then write the answer. 1 mark each.

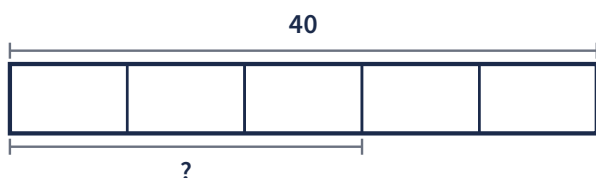
9 $\frac{1}{4}$ of 36 =



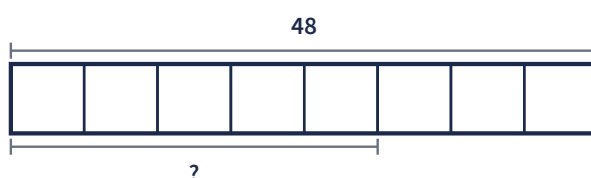
10 $\frac{2}{3}$ of 27 =



11 $\frac{3}{5}$ of 40 =



12 $\frac{5}{8}$ of 48 =



Work these out. 1 mark each.

13 $\frac{1}{2}$ of 84 =

14 $\frac{3}{4}$ of 60 =

15 $\frac{2}{5}$ of 35 =

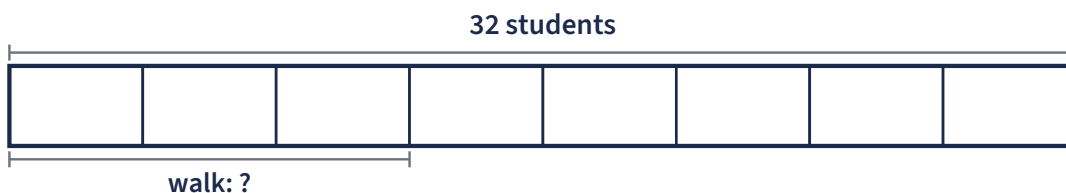
16 $\frac{7}{10}$ of 90 =

B Practise *use the skill*

/ 21 marks

- 1 There are **32** students in Room 6. $\frac{3}{8}$ of them walk to school. Complete the bar model. How many students walk to school?

[2 marks]



Answer: _____

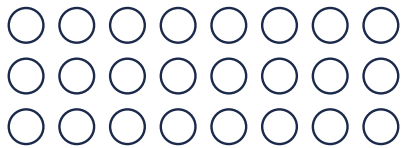
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- 2 Jack has **\$45**. He spends $\frac{2}{3}$ of it at Kmart. Complete the bar model. How much does he spend? How much does he have left? [2 marks]



Answer: _____

- 3 Mum baked **24** biscuits. $\frac{1}{4}$ of them are chocolate and $\frac{1}{3}$ are jam. The rest are plain. **Shade** the chocolate biscuits and **circle** the jam biscuits. How many are plain? [3 marks]

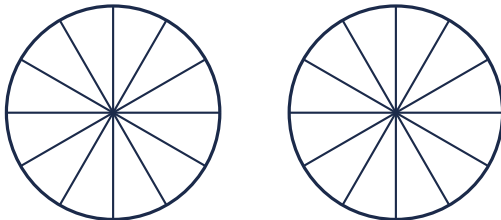


Answer: _____

- 4 Complete the table to show each fraction of **60**. [3 marks]

	A	B	C	D	E	F
Fraction of 60	$\frac{1}{2}$	$\frac{1}{3}$	$\frac{2}{3}$	$\frac{3}{4}$	$\frac{3}{5}$	$\frac{5}{6}$
Answer						

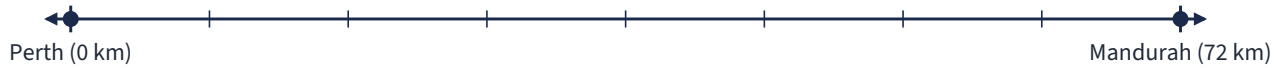
- 5 Each circle shows one hour, cut into 12 equal parts of 5 minutes. Shade $\frac{3}{4}$ of an hour on the first circle and $\frac{2}{3}$ of an hour on the second. How many minutes is each? [2 marks]



Answer: _____

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- 6 The train from Perth to Mandurah travels about **72 km**. The train has gone $\frac{5}{8}$ of the way. Mark where the train is. How far has it gone? How far is there still to go? [2 marks]



Answer: _____

- 7 A bag holds **2 kg** of flour. Dad uses $\frac{3}{4}$ of it to bake bread. Use the bar model. How many **grams** of flour are left? [2 marks]



Answer: _____

- 8 Draw a line from each calculation to its answer. [2 marks]

$\frac{1}{3}$ of 27 •	• 10
$\frac{3}{4}$ of 16 •	• 15
$\frac{2}{5}$ of 25 •	• 9
$\frac{5}{6}$ of 18 •	• 12

- 9 Which is **more**: $\frac{2}{3}$ of \$36 or $\frac{3}{5}$ of \$45? By how much? Show your working. [3 marks]

Answer: _____

C

Think it through *explain your thinking*

/ 10 marks

- 1 Leo says $\frac{2}{3}$ of 30 is **15**, because $30 \div 2 = 15$. Do you agree with Leo? Explain his mistake and find the right answer. [2 marks]

- 2 **True or false?** “ $\frac{2}{3}$ of 45 is the same as $\frac{1}{3}$ of 90.” Explain **without** working out both answers first. Then check. [2 marks]

- 3 **Always, sometimes or never true?** “Half of a whole number is a whole number.” Give examples. Circle one below. [2 marks]

Always

Sometimes

Never

- 4 Which is the **odd one out**? $\frac{1}{2}$ of 40, $\frac{1}{4}$ of 80, $\frac{2}{3}$ of 30, $\frac{3}{5}$ of 30 Explain. [2 marks]

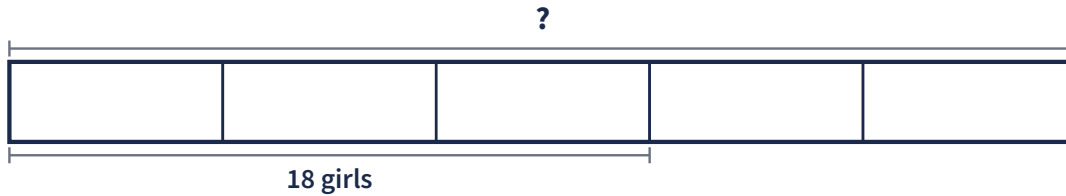
- 5 Priya finds $\frac{3}{4}$ of 48 like this: she **halves** 48, **halves again**, then **subtracts** that from 48. Explain why her method works. What answer does she get? [2 marks]

D**Challenge** *stretch yourself*

/ 9 marks

- 1 $\frac{3}{5}$ of the students in a class are girls. There are **18** girls. Complete the bar model. [3 marks]

How many students are in the class? How many are boys?



Answer: _____

- 2 Sam has **\$60**. He spends $\frac{1}{4}$ of it on a book. Then he spends $\frac{1}{3}$ of the money he has **left** on lunch. How much money does Sam have now? [3 marks]

Answer: _____

- 3 $\frac{\square}{\square}$ of 24 = 18. Find **all** the fractions that work if the denominator is a factor of 24 and the fraction is less than 1. Explain how you know you have them all. [3 marks]

Answer: _____

How did I go?

Warm up ___ / 16 Practise ___ / 21 Think it through ___ / 10 Challenge ___ / 9 **Total** ___ / 56

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