FRACTION OF AN AMOUNT

BUILDING BLOCKS

NAME _____ CLASS _____ DATE _____

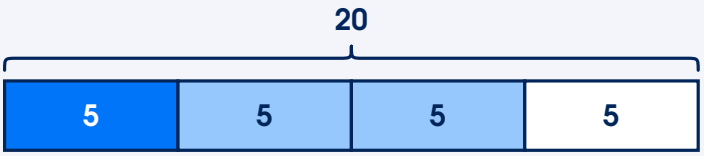
KEY IDEA

To find a fraction of an amount, share it into equal parts.

The denominator tells you how many parts. The numerator tells you how many to take.

$\frac{1}{4}$ of 20 = 5

$\frac{3}{4}$ of 20 = 15



1 Use the groups of counters to help you.

a) 

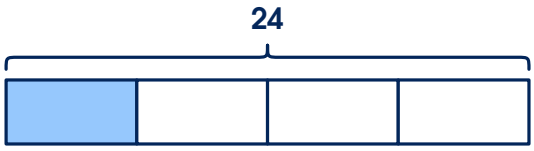
$\frac{1}{5}$ of 10 = ☐ $\frac{3}{5}$ of 10 = ☐

b) 

$\frac{1}{3}$ of 12 = ☐ $\frac{2}{3}$ of 12 = ☐

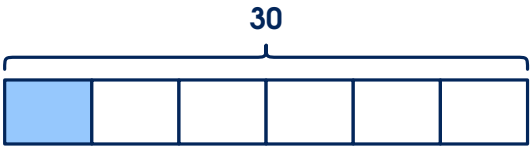
2 Write the value of each part in the bar. Then complete.

a)



$\frac{1}{4}$ of 24 = ☐

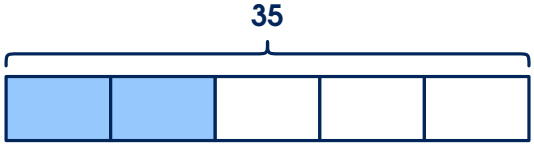
b)



$\frac{1}{6}$ of 30 = ☐

3 Find one part first. Then find the shaded parts.

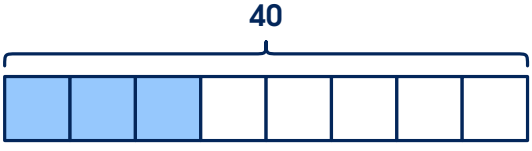
a)



One part = ☐

$\frac{2}{5}$ of 35 = ☐

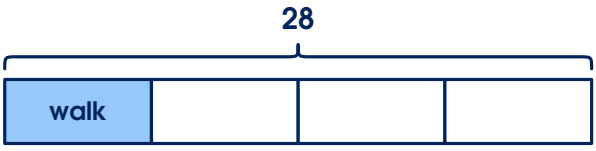
b)



One part = ☐

$\frac{3}{8}$ of 40 = ☐

4 There are 28 pupils in a class. A quarter of them walk to school.



a) How many walk? ☐

b) How many do not walk? ☐

FRACTION OF AN AMOUNT

SUPPORT

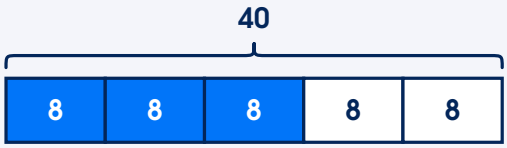
NAME _____ CLASS _____ DATE _____

KEY IDEA

Divide by the denominator, then multiply by the numerator.

$\frac{3}{5}$ of 40: $40 \div 5 = 8$, $8 \times 3 = 24$

So $\frac{3}{5}$ of $40 = \frac{3}{5} \times 40 = 24$



1 Fill in the boxes to find each amount.

a) $\frac{2}{3}$ of 27 → 27 → ÷ 3 → ☐ → × 2 → ☐

b) $\frac{5}{6}$ of 42 → 42 → ÷ 6 → ☐ → × 5 → ☐

c) $\frac{3}{7}$ of 56 → 56 → ÷ 7 → ☐ → × 3 → ☐

2 Use the bar to find the whole amount.

a) $\frac{1}{4}$ of a number is 9.



The number = ☐

b) $\frac{2}{5}$ of a number is 14.



The number = ☐

3 Find each amount. Remember the units.

a) $\frac{3}{4}$ of £36 = £☐ b) $\frac{2}{3}$ of 45 kg = ☐ kg c) $\frac{5}{8}$ of 64 m = ☐ m

4 Increase or decrease each amount. Use the bars to help.

a) Increase 30 by $\frac{1}{5}$.



Answer = ☐

b) Decrease 56 by $\frac{3}{8}$.



Answer = ☐

FRACTION OF AN AMOUNT

CORE

NAME _____ CLASS _____ DATE _____

KEY IDEA

$\frac{2}{5}$ of 30 = $\frac{2}{5}$ × 30 = 12 Increase 30 by $\frac{1}{5}$: 30 + 6 = 36

If $\frac{2}{5}$ of an amount is 12, then $\frac{1}{5}$ is 6, so the whole amount is 5 × 6 = 30.

FLUENCY

1 Work out.

a) $\frac{5}{8}$ of 72 = ☐

b) $\frac{4}{9}$ of 63 kg = ☐ kg

c) $\frac{2}{3}$ of 4.5 = ☐

d) $\frac{7}{12}$ of £30 = £☐

e) $\frac{3}{5}$ × 85 = ☐

f) $1\frac{1}{3}$ of 36 = ☐

2 Find each whole amount.

a) $\frac{3}{7}$ of n = 27 n = ☐

b) $\frac{5}{6}$ of m = 40 kg m = ☐ kg

c) $\frac{2}{5}$ of A = £18.50 A = £☐

REASONING

3 Increase or decrease by a fraction.

a) A 600 g box of cereal has $\frac{1}{4}$ extra free. How much cereal is in it now? ☐ g

b) A coat costs £84. In a sale, the price is reduced by $\frac{2}{7}$. Sale price: £☐

4 Sam makes a mistake.

Sam says, "Increasing 40 by $\frac{1}{4}$ gives $40\frac{1}{4}$."

a) Correct answer: ☐

b) Explain Sam's mistake.

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FRACTION OF AN AMOUNT

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) A fraction of an amount is less than the amount. ALWAYS SOMETIMES NEVER

b) Increasing by a quarter, then decreasing the result by a quarter, gets you back to the start. ALWAYS SOMETIMES NEVER

c) Finding a fraction of an amount is the same as multiplying by that fraction. ALWAYS SOMETIMES NEVER

PROBLEM SOLVING

2 Ali, Bea and Cal share £120.

Ali gets $\frac{1}{3}$ of the money. Bea gets $\frac{2}{5}$ of what is left. Cal gets the rest.

How much does Cal get? £ ☐

3 A bar model may help you with this problem.

$\frac{3}{5}$ of the pupils in a school are girls. There are 84 more girls than boys.

How many pupils are there in the school? ☐

★ CHALLENGE FOR ALL

4 Work backwards from the fractions to find the whole.

A water tank is $\frac{3}{4}$ full. After 42 litres are used, it is $\frac{2}{5}$ full.

a) How many litres does the full tank hold? ☐ litres

b) How many more litres are now needed to fill the tank? ☐ litres

FRACTION OF AN AMOUNT – ANSWERS

ANSWERS

BUILDING BLOCKS

1 a) 2 b) 6 c) 4 d) 8

2 a) 6 in each part; 6 b) 5 in each part; 5

3 a) 7; 14 b) 5; 15

4 a) 7 b) 21

SUPPORT

1 a) 9; 18 b) 7; 35 c) 8; 24

2 a) 36 b) each part is 7; 35

3 a) £27 b) 30 kg c) 40 m

4 a) 30 + 6 = 36 b) 56 – 21 = 35

CORE

1 a) 45 b) 28 kg c) 3 d) £17.50 e) 51 f) $\frac{4}{3} \times 36 = 48$

2 a) 63 b) 48 kg c) £46.25

3 a) 600 + 150 = 750 g b) 84 – 24 = £60

4 a) 50 b) Sam added the fraction $\frac{1}{4}$ to 40. He should find $\frac{1}{4}$ of 40 (10) and add it.

GREATER DEPTH

1 a) Sometimes: $\frac{2}{3}$ of 30 = 20, but $\frac{4}{3}$ of 30 = 40 b) Never (unless 0): 80 → 100 → 75

c) Always: e.g. $\frac{2}{5}$ of 30 = $\frac{2}{5} \times 30 = 12$

2 Ali £40, Bea $\frac{2}{5}$ of £80 = £32, so Cal gets £48

3 girls – boys = $\frac{1}{5}$ of the pupils = 84, so there are 420 pupils

4 a) $\frac{3}{4} - \frac{2}{5} = \frac{7}{20}$ is 42 litres, so $\frac{1}{20}$ is 6 litres: full tank = 120 litres b) $\frac{3}{5}$ of 120 = 72 litres