

4.6Needs more practice Almost there I'm proficient!

Find fractions of quantities

- By the end of this section you will know how to:
- * Find a fraction of a quantity
 - * Multiply a fraction by a positive integer

GCSE LINKS

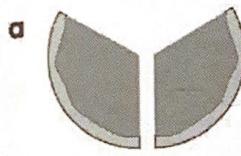
AF: 8.5 Multiplying fractions;
BE: Unit 2.4.5 Multiplying
fractions; 16+: 2.3, 2.5
Multiplying and dividing
fractions

Key points

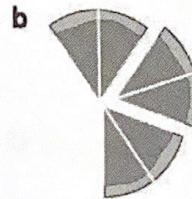
- * To multiply a fraction, multiply the numerator.
- * To find a fraction of a number, divide by the denominator.

- 1 Write these as multiplications to find the answer.

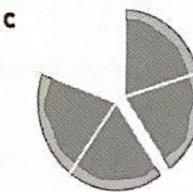
Guided



$$2 \times \frac{1}{3} = \dots$$



$$3 \times \frac{\dots}{10} = \dots = \dots$$



$$\dots \times \frac{\dots}{5} = \dots$$

Remember this

A fraction is a way of showing division, e.g. $\frac{3}{10} = 3 \div 10$.

You should know

Related division facts for 2, 3, 4, 5 and 10 times tables.

Practice

- 2 Work out these multiplications. Simplify where possible.

a $3 \times \frac{1}{8} = \dots$

b $4 \times \frac{1}{7} = \dots$

c $2 \times \frac{3}{10} = \dots$

d $3 \times \frac{4}{20} = \dots$

e $\frac{4}{15} \times 2 = \dots$

f $\frac{2}{11} \times 5 = \dots$

g $\frac{3}{7} \times 2 = \dots$

h $5 \times \frac{3}{20} = \dots$

i $\frac{2}{9} \times 3 = \dots$

Guided

- 3 Find the fraction of the number using division.

a $\frac{1}{2}$ of 16 = $16 \div 2 =$

c $\frac{1}{5}$ of 20 = ÷ =

e $\frac{1}{10}$ of 20 = =

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

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

f $\frac{1}{3}$ of 18 = =

Remember this
To find $\frac{1}{2}$ divide by 2,
to find $\frac{1}{4}$ divide by 4.

Practice

- 4 Find the fraction of the number using division.

a $\frac{1}{10}$ of 40 =

c $\frac{1}{6}$ of 30 =

e $\frac{1}{8}$ of 32 =

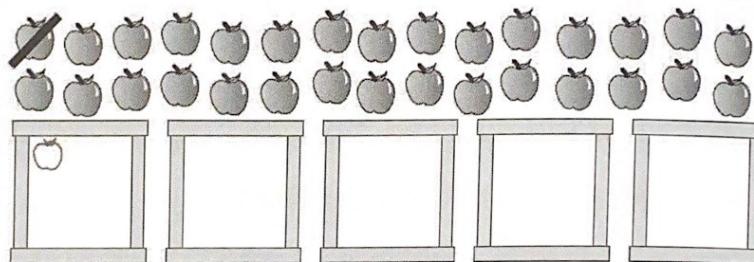
b $\frac{1}{5}$ of 25 =

d $\frac{1}{9}$ of 27 =

f $\frac{1}{7}$ of 28 =

Guided

- 5 a Find $\frac{1}{5}$ of these apples, by dividing them into the five crates.



Practice

- 6 Use division then multiplication to find these fractions.

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

c $\frac{4}{5}$ of 50 =

e $\frac{3}{10}$ of 60 =

b $\frac{7}{10}$ of 40 =

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

f $\frac{2}{3}$ of 30 =

Step into
GCSE

- 7 Work out the answers.

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

c $\frac{5}{6}$ of 120 =

e $\frac{4}{11}$ of 66 =

b $\frac{3}{5}$ of 150 =

d $\frac{9}{10}$ of 450 =

f $\frac{4}{9}$ of 72 =

* Shade each shape to show the fraction.



a $\frac{3}{5}$



b $\frac{5}{6}$



c $\frac{3}{10}$

* Match the equivalent fractions.

$\frac{3}{4}$ $\frac{2}{3}$ $\frac{1}{2}$ $\frac{1}{4}$

$\frac{15}{30}$ $\frac{15}{20}$ $\frac{5}{20}$ $\frac{20}{30}$

* Fill in the table of equivalent fractions and decimals.

Decimal		0.5		0.01		0.17
Fraction	$\frac{1}{10}$		$\frac{9}{10}$		$\frac{4}{100}$	

* To change a decimal into a fraction you then the fraction if you can.

* To find $\frac{1}{5}$ of a quantity you

* To find $\frac{3}{4}$ of a quantity you then

Exam-style questions

1 a Work out $\frac{3}{7} + \frac{2}{7}$ b Work out $\frac{7}{8} - \frac{5}{8}$

2 a Work out $\frac{1}{5}$ of 35 b Work out $\frac{1}{4}$ of 24

3 a Work out $\frac{3}{4}$ of 32 b Work out $\frac{3}{10}$ of 40

4 a Find an equivalent fraction to $\frac{10}{20}$ b Write $\frac{8}{10}$ in its simplest form.

5 a Write 0.7 as a fraction. b Write $\frac{1}{4}$ as a decimal.

6 Work out $\frac{1}{4}$ of £40. £

7 Write these fractions in order of size. Start with the smallest fraction.

$\frac{1}{4}$ $\frac{3}{4}$ $\frac{1}{2}$ $\frac{1}{5}$