

4.3 Fractions of amounts

- ⇒ Understand that fractions relate to division
- ⇒ Find simple fractions of quantities and measurements

What's the BIG idea?

→ Finding one half ($\frac{1}{2}$) of something is the same as dividing by 2. **Level 3**

→ To find one tenth of an **amount** you divide by 10.

$$\frac{1}{10} \text{ of } £70 = £70 \div 10 = £7 \quad \text{Level 3}$$

→ You can check your answers by working backwards.

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

Check by working backwards: $4 \times 5 = 20$ **Level 4**

→ To find the **fraction** of a quantity, divide the quantity by the **denominator** and then multiply by the **numerator**.

Level 5

$$\frac{1}{4} \text{ of } 16: \quad 16 \div 4 = 4$$

$$1 \times 4 = 4$$

$$\frac{2}{7} \text{ of } 21 \text{ m:} \quad 21 \div 7 = 3$$

$$2 \times 3 = 6 \text{ m}$$

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Practice, Practice, practice!

1 a Finding one third of an amount is the same as dividing by .

b Finding one fifth of an amount is the same as .

c $\frac{20}{3}$ is another way of writing 20 3.

2 a $\frac{1}{2}$ hour = minutes

c $\frac{1}{3}$ hour = minutes

e $\frac{1}{4}$ day = hours

b $\frac{1}{4}$ hour = minutes

d $\frac{1}{2}$ day = hours

f $\frac{1}{3}$ day = hours

3 What is

a one tenth of 240

c half of 62

e one quarter of 36

b one fifth of 35

d one hundredth of 800

f one third of 24

4 A coat was £57.90. Now it is half price, how much will it cost? Use a calculator then check your answer by working it backwards.

5 Work out

$$\frac{1}{2} \text{ of } 16 \text{ cm} = 16 \div 2 = 8 \text{ cm}$$

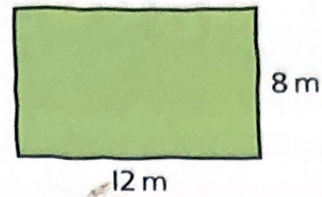
a $\frac{1}{8}$ of 24 kg

b $\frac{1}{4}$ of 20 ml

c $\frac{1}{5}$ of £100

d $\frac{1}{3}$ of 9 km

- 6** John is redesigning his garden.
It is a rectangle 12 m long and 8 m wide.
He decides to dig a vegetable plot which is a quarter of the width and length of the garden.



- a** What is the width of the vegetable plot?
b What is the length of the vegetable plot?

- 7** Find **a** $\frac{2}{3}$ of 18 **b** $\frac{3}{5}$ of 20 **c** $\frac{7}{12}$ of 48 **d** $\frac{5}{12}$ of 60

- 8** At the end of the summer, garden furniture is sold in a sale. The price of each piece of furniture is reduced by two thirds.
Work out the amount you save on each item.



- 9** At a football match, $\frac{3}{8}$ of the crowd support Manchester United. The rest support Chelsea. There are 60 000 people at the match. How many support
a Manchester United **b** Chelsea?
c Explain two ways that you can work out the answer to **b**.