



- 1 Work out $\frac{1}{5}$ of 45

(1 mark)

The denominator tells you how many equal groups make the whole. Divide by it to find one group, then multiply by the numerator to take the required number of groups

$$45 \div 5 = 9$$

9

- 2 Work out $\frac{1}{8}$ of 56

(1 mark)

$$56 \div 8 = 7$$

7

- 3 Amir has £40. He spends $\frac{3}{5}$ of his money on a book.

Work out how much he spends. You may draw a bar model.

(2 marks)

$$40 \div 5 = 8 \text{ (one fifth)}$$

$$3 \times 8 = 24$$

£24

- 4 Work out $\frac{1}{6}$ of 138

(1 mark)

$$138 \div 6 = 23$$

23

- 5 There are 30 students in a class. 12 of them walk to school.

What fraction of the class walk to school? Give your answer in its simplest form.

(2 marks)

$$\frac{12}{30}$$

divide top and bottom by 6

$\frac{2}{5}$

6 The fuel tank of a car holds 60 litres. The fuel gauge shows the tank is $\frac{3}{4}$ full.

- a. Work out how many litres of fuel are in the tank.
- b. Work out how many more litres are needed to fill the tank.

(3 marks)

a)

$$60 \div 4 = 15$$

$$3 \times 15 = 45$$

45 litres

b)

$$60 - 45 = 15$$

15 litres

7 Tom says, "To find $\frac{3}{4}$ of 20, I divide 20 by 3 and then multiply by 4."

- a. Explain why Tom is wrong.
- b. Work out $\frac{3}{4}$ of 20.

(2 marks)

a)

divide by the denominator (4), multiply by the numerator (3)

b)

$$20 \div 4 = 5$$

$$5 \times 3 = 15$$

15

8 A bag contains 60 sweets. $\frac{2}{5}$ of the sweets are red and 25% of the sweets are green. The rest are yellow.

Work out how many sweets are yellow.

(3 marks)

$$\text{red: } 60 \div 5 \times 2 = 24$$

$$\text{green: } 60 \div 4 = 15$$

$$24 + 15 = 39$$

$$60 - 39 = 21$$

21

9

Work out $\frac{3}{4}$ of 92

(1 mark)

$$92 \div 4 = 23$$

$$23 \times 3 = 69$$

69

10

Maya has 2 hours to do her homework. She spends $\frac{1}{3}$ of the time on maths and 20% of the time on science.

- Work out how many minutes she spends on maths.
- Work out how many minutes she spends on science.
- Work out how many minutes she has left for other homework.

(4 marks)

$$2 \text{ hours} = 120 \text{ minutes}$$

a)

$$120 \div 3 = 40$$

40 minutes

b)

$$10\% = 12$$

$$20\% = 24$$

24 minutes

c)

$$120 - 40 - 24 = 56$$

56 minutes

11

Work out each of these amounts.

$$\frac{2}{3} \text{ of } 60 \quad \frac{3}{4} \text{ of } 48 \quad \frac{4}{5} \text{ of } 40$$

Write the three amounts in order of size, starting with the smallest.

(3 marks)

$$\frac{2}{3} \text{ of } 60 = 20 \times 2 = 40$$

$$\frac{3}{4} \text{ of } 48 = 12 \times 3 = 36$$

$$\frac{4}{5} \text{ of } 40 = 8 \times 4 = 32$$

32, 36, 40

- 12 A school sells 240 raffle tickets. $\frac{3}{8}$ of the tickets are sold at £2 each. The rest are sold at £1.50 each.

Work out the total money from selling all 240 tickets.

(4 marks)

$$240 \div 8 = 30$$

$$30 \times 3 = 90 \text{ tickets at } £2$$

$$240 - 90 = 150 \text{ tickets at } £1.50$$

$$90 \times 2 = 180$$

$$150 \times 1.5 = 225$$

$$180 + 225 = 405$$

$$\boxed{£405}$$

- 13 $\frac{1}{4}$ of the people at a concert are children.

There are 65 children at the concert.

Work out the total number of people at the concert.

(2 marks)

$$\frac{1}{4} \text{ of the total is } 65$$

$$\text{Total} = 65 \times 4 = 260$$

$$\boxed{260}$$

- 14 Maya has £64.

She spends $\frac{3}{8}$ of her money.

Work out how much money Maya has left.

(3 marks)

$$£64 \div 8 = £8, \text{ so } \frac{3}{8} \text{ of } £64 = 3 \times £8 = £24$$

$$\text{Money left} = £64 - £24 = £40$$

$$\boxed{£40}$$

- 15 A crate holds 36 boxes.

$\frac{5}{9}$ of the boxes each weigh 2 kg.

The rest of the boxes each weigh 3 kg.

Work out the total weight of the 36 boxes.

(3 marks)

$$\frac{5}{9} \text{ of } 36 = 36 \div 9 \times 5 = 20 \text{ boxes weighing 2 kg each}$$

$$\text{The other } 36 - 20 = 16 \text{ boxes weigh 3 kg each}$$

$$\text{Total weight} = 20 \times 2 + 16 \times 3 = 40 + 48 = 88 \text{ kg}$$

88 kg

- 16 Leo has 84 stickers.

He gives $\frac{2}{7}$ of the stickers to Ria.

He then gives half of the stickers he has left to Sam.

Work out how many stickers Leo gives to Sam.

(3 marks)

$$\frac{2}{7} \text{ of } 84 = 84 \div 7 \times 2 = 24 \text{ stickers to Ria}$$

$$\text{Stickers left} = 84 - 24 = 60$$

$$\text{Sam gets half of } 60 = 30 \text{ stickers}$$

30

- 17 A water butt holds 240 litres of water. It is full on Sunday night.

Nia uses $\frac{1}{3}$ of the water on Monday.

She uses $\frac{1}{4}$ of the original 240 litres on Tuesday.

Nia needs 100 litres of water on Wednesday.

Does she have enough water left? You must show your working.

(3 marks)

Monday

$$\frac{1}{3} \text{ of } 240 = 80 \text{ litres}$$

Tuesday

$$\frac{1}{4} \text{ of } 240 = 60 \text{ litres}$$

$$\text{Total used} = 80 + 60 = 140 \text{ litres, so } 240 - 140 = 100 \text{ litres are left}$$

100 litres is exactly the amount Nia needs, so yes, she has enough

- 18 Amir and Beth share a prize of £360.

Amir gets $\frac{2}{5}$ of the prize. Beth gets the rest.

Beth gives $\frac{1}{4}$ of her share to charity.

Work out how much money Beth keeps.

(4 marks)

Amir's share

$$\frac{2}{5} \text{ of } £360 = £144$$

Beth's share

$$£360 - £144 = £216$$

$$\text{Beth gives away } \frac{1}{4} \text{ of } £216 = £54$$

$$\text{Beth keeps } £216 - £54 = £162$$

£162

- 19 A school orders 120 calculators.

$\frac{3}{8}$ of the calculators are scientific calculators costing £8.50 each.

The rest are basic calculators costing £4 each.

Work out the total cost of the order.

(4 marks)

$$\frac{3}{8} \text{ of } 120 = 45 \text{ scientific calculators}$$

Basic calculators

$$120 - 45 = 75$$

Scientific cost

$$45 \times £8.50 = £382.50$$

Basic cost

$$75 \times £4 = £300$$

Total cost

$$£382.50 + £300 = £682.50$$

£682.50

20

Priya, Quinn and Raj share £480.

Priya gets $\frac{1}{3}$ of the money.

Quinn gets $\frac{3}{8}$ of the money.

Raj gets the rest.

Work out how much more money Quinn gets than Raj.

(5 marks)

Priya's share

$$\frac{1}{3} \text{ of } £480 = £160$$

Quinn's share

$$\frac{3}{8} \text{ of } £480 = £180$$

Raj's share

$$£480 - £160 - £180 = £140$$

Quinn gets $£180 - £140 = £40$ more than Raj

£40