

Fractions of Amounts — Word Problems

Work out each answer. Show your working. Give units (e.g., £, kg, km, minutes).

- 1) A charity received a donation of £2,500. If $\frac{2}{5}$ of this amount is allocated to educational programmes, how much money is allocated to education?
- 2) A baker uses $\frac{5}{12}$ of a 36 kg bag of flour to make bread. How many kilograms of flour does the baker use for bread?
- 3) A class of 30 students is split into groups. $\frac{3}{10}$ of the students are chosen for a science project. How many students are chosen?
- 4) A runner plans to complete a 24 km route. If they have already run $\frac{7}{12}$ of the route, how many kilometres have they completed?
- 5) A shop sells a box of 48 chocolates. $\frac{3}{8}$ of them are strawberry flavour. How many strawberry chocolates are in the box?
- 6) A tank holds 84 litres of water when full. It currently contains $\frac{5}{7}$ of its capacity. How many litres of water are in the tank?
- 7) An artist spends $\frac{2}{3}$ of a £180 budget on canvases. How much money is left?
- 8) A recipe needs $\frac{3}{5}$ of a 400 g tin of tomatoes. How many grams of tomatoes are needed?
- 9) A gardener has $\frac{2}{9}$ of a 63 m roll of fencing left. How many metres remain?
- 10) A film is 2 hours 24 minutes long. A student has watched $\frac{5}{8}$ of it. How many minutes has the student watched?
- 11) A book has 360 pages. A reader finishes $\frac{7}{12}$ of the book. How many pages have they read?
- 12) A fundraiser raised £1,260 in total. $\frac{3}{7}$ of the money came from online donations. How much came from online donations?

Answers (Step by Step)

1)

$$\text{Amount for education} = \frac{2}{5} \times \text{£2,500}$$

$$= (2 \times 2,500) \div 5$$

$$= 5,000 \div 5$$

$$= \text{£1,000}$$

2)

$$\text{Flour used} = \frac{5}{12} \times 36 \text{ kg}$$

$$= (5 \times 36) \div 12$$

$$= 180 \div 12$$

$$= 15 \text{ kg}$$

3)

$$\text{Students chosen} = \frac{3}{10} \times 30$$

$$= (3 \times 30) \div 10$$

$$= 90 \div 10$$

$$= 9 \text{ students}$$

4)

$$\text{Distance completed} = \frac{7}{12} \times 24 \text{ km}$$

$$= (7 \times 24) \div 12$$

$$= 168 \div 12$$

$$= 14 \text{ km}$$

5)

Strawberry chocolates = $\frac{3}{8} \times 48$

$$= (3 \times 48) \div 8$$

$$= 144 \div 8$$

$$= \mathbf{18 \text{ chocolates}}$$

6)

Water in tank = $\frac{5}{7} \times 84 \text{ L}$

$$= (5 \times 84) \div 7$$

$$= 420 \div 7$$

$$= \mathbf{60 \text{ litres}}$$

7)

Spent on canvases = $\frac{2}{3} \times \text{£}180$

$$= (2 \times 180) \div 3$$

$$= 360 \div 3$$

$$= \text{£}120$$

$$\text{Money left} = \text{£}180 - \text{£}120 = \mathbf{\text{£}60}$$

8)

Tomatoes needed = $\frac{3}{5} \times 400 \text{ g}$

$$= (3 \times 400) \div 5$$

$$= 1,200 \div 5$$

$$= \mathbf{240 \text{ g}}$$

9)

$$\text{Fencing left} = \frac{2}{9} \times 63 \text{ m}$$

$$= (2 \times 63) \div 9$$

$$= 126 \div 9$$

$$= \mathbf{14 \text{ m}}$$

10)

$$\text{Total minutes} = 2 \text{ h } 24 \text{ min} = 144 \text{ min}$$

$$\text{Watched} = \frac{5}{8} \times 144$$

$$= (5 \times 144) \div 8$$

$$= 720 \div 8$$

$$= \mathbf{90 \text{ minutes}}$$

11)

$$\text{Pages read} = \frac{7}{12} \times 360$$

$$= (7 \times 360) \div 12$$

$$= 2,520 \div 12$$

$$= \mathbf{210 \text{ pages}}$$

12)

$$\text{Online donations} = \frac{3}{7} \times \text{£}1,260$$

$$= (3 \times 1,260) \div 7$$

$$= 3,780 \div 7$$

$$= \mathbf{\text{£}540}$$