

Chapter 22: Fractions/Decimals/Percentages 2

Calculating a decimal of a number.

To find a decimal fraction of a number, we simply multiply by the decimal.



A Find 0.04 of 175

$$\begin{array}{r} 175 \\ \times 0.04 \\ \hline 7.00 \end{array}$$

B Find 0.11 of 220

$$\begin{array}{r} 220 \\ \times 0.11 \\ \hline 24.20 \end{array}$$

1. Now do the following. Find:

(a) 0.3 of 230

(b) 0.25 of 356

(c) 0.06 of 50

(d) 0.37 of 600

Calculating a percentage of a number.

We can find a percentage of a number by changing the **percentage** to a **fraction** or a **decimal**.

A Fraction Method

Find 75% of 60

$$75\% \rightarrow \frac{75}{100} = \frac{3}{4}$$

$$\begin{array}{l} \frac{4}{4} = 60 \\ \frac{1}{4} = 15 \\ \frac{3}{4} = 45 \end{array}$$

B Decimal Method

Find 75% of 60

$$75\% \rightarrow \frac{75}{100} = 0.75$$

$$\begin{array}{r} 60 \\ \times 0.75 \\ \hline 45.00 \end{array}$$



Both methods will give the same answer.



2. Have a go at using both methods.

(a) Fraction method

(i) Find 40% of 50

(ii) Find 7% of 200

(iii) Find $66\frac{2}{3}\%$ of 12

(iv) Find $37\frac{1}{2}\%$ of 40

(b) Decimal method

(i) What is 60% of 50?

(ii) What is 13% of 50?

(iii) What is 50% of 35?

(iv) What is 8% of 75?

(v) What is 15% of 60?

(vi) What is 35% of 80?

3. Find.

(a) $33\frac{1}{3}\%$ of €12

(b) 40% of 230g

(c) 50% of 3km

(d) $37\frac{1}{2}\%$ or 37.5% of 80cm

(e) 8% of €4.50

(f) 16.66% or $16\frac{2}{3}\%$ of 6cm

(g) 75% of 28l

(h) 80% of 330m






(i) $87\frac{1}{2}\%$ of 208m

4. 1,800 people picked their favourite pets. Work out how many picked each one. (You can round to the nearest whole number if you use the **decimal** method.)

Dog	Cat	Budgie	Hamster	Goldfish	Snake
$33\frac{1}{3}\%$ or 33.33%	21.5%	$16\frac{2}{3}\%$ or 16.66%	15%	9.5%	4%

Fractions/Decimals/Percentages 2 – The calculator

1. (a) Work out how much each child grew to the nearest centimetre (cm).
 (b) Order the children from the one who grew **most** to the one who grew **least**.

(i) Barry 	(ii) Jenny 	(iii) Adam 	(iv) Helen 	(v) Tom 
Barry was 135cm. He grew 4%	Jenny was 128cm. She grew 12.5%.	Adam was 130cm. He grew 6%.	Helen was 126cm. She grew 10%.	Tom was 117cm. He grew $11\frac{1}{9}\%$.

Calculating percentages using a calculator.
 What is 56% of €15?

You don't have to press the = sign for % method (on most calculators).

A Calculate using a decimal.

Press **1** **5** **x** **0** **.** **5** **6** **=**

8.4

B Calculate using a percentage.

Press **1** **5** **x** **5** **6** **%**

8.4








Either way, 56% of €15 = €8.40!

2. Calculate the following using **decimals**. (Round the answer to the nearest whole number.)
 (a) 10% of 30 (b) 25% of 400 (c) 12.5% of 88 (d) 77% of 200 (e) 66.66% of 30
3. Calculate the following using **percentages**. (Round the answer to the nearest whole number.)
 (a) 75% of 40 (b) 80% of 45 (c) $37\frac{1}{2}\%$ of 72 (d) 49% of 10 (e) 16.66% of 30
4. Which one from each pair ate or drank more? Use your calculator to find out.

(a) seal Ate 59% of 3kg of fish	dolphin Ate 87% of 2kg of fish	(b) crocodile Ate 62.5% of 5kg of meat	lion Ate 66.66% of 4.5kg of meat	(c) elephant Drank 49% of 20l of water	giraffe Drank 87.5% of 11l of water
(d) parrot Ate 72% of 350g of seed	goose Ate 56.5% of 500g of seed	(e) lion cub Drank 75% of 450ml of milk	tiger cub Drank $37\frac{1}{2}\%$ of 888ml of milk	(f) monkey Ate 83.33% of 18 bananas	chimpanzee Ate 75% of 21 bananas

5. Trudy brought €48 with her on her holiday. Calculate how much she spent on each item.

(a)  $8\frac{1}{3}\%$ of her money	(b)  5% of her money	(c)  $16\frac{2}{3}\%$ of her money	(d)  17% of her money	(e)  20% of her money
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Challenge

What percentage of her money had Trudy left? %