

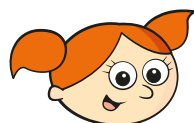
# Convert fluently between fractions, decimals and percentages

1 Draw a line between the matching fractions and decimals.

You may use a calculator to help you.

$\frac{17}{20}$	$\frac{33}{40}$	$\frac{43}{50}$	$\frac{21}{25}$
0.825	0.85	0.84	0.86

2



One-quarter is equal to 25%,  
so one-eighth must be the same  
as  $12\frac{1}{2}\%$  or 0.125

Use Alex's fact to write the percentage and decimal equivalents.

$$\frac{3}{8} = 3 \times 12\frac{1}{2}\% = \boxed{\phantom{00}}\% = \boxed{\phantom{00}}$$

$$\frac{5}{8} = \underline{\hspace{2cm}} = \boxed{\phantom{00}}\% = \boxed{\phantom{00}}$$

$$\frac{7}{8} = \times \underline{\hspace{2cm}} = \boxed{\phantom{00}}\% = \boxed{\phantom{00}}$$

3 Look at the results in the table.

Percentage	Calculation	Decimal
40%	$40 \div 100$	0.4
42%	$42 \div 100$	0.42
42.7%	$42.7 \div 100$	0.427

Use a calculator or your knowledge of division and multiplication to complete this table.

Percentage	Decimal
37%	
37.4%	
3%	
3.5%	
	0.46
	0.416
	0.406
	0.046

4

You can convert a fraction to a decimal by dividing the numerator by the denominator.

For example,  $\frac{11}{20} = 11 \div 20 = 0.55$

Convert these fractions to decimals.

a)  $\frac{19}{40}$       b)  $\frac{27}{200}$       c)  $\frac{51}{80}$

5

Convert these percentages to fractions, simplifying your answers if possible.

The first one has been done for you.

a)  $30\% = \frac{30}{100} = \frac{\boxed{3}}{10}$       d)  $42\% = \boxed{\phantom{00}}$

b)  $45\% = \frac{\boxed{45}}{100} = \frac{\boxed{9}}{20}$       e)  $71\% = \boxed{\phantom{00}}$

c)  $38\% = \frac{\boxed{38}}{100} = \boxed{\phantom{00}}$       f)  $92\% = \boxed{\phantom{00}}$

Use a calculator or your knowledge of division and multiplication to complete this table.

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37%	
37.4%	
3%	
3.5%	
	0.46
	0.416
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- 4** You can convert a fraction to a decimal by dividing the numerator by the denominator.

For example,  $\frac{11}{20} = 11 \div 20 = 0.55$

Convert these fractions to decimals.

- a)  $\frac{19}{40}$       b)  $\frac{27}{200}$       c)  $\frac{51}{80}$

- 5** Convert these percentages to fractions, simplifying your answers if possible.

The first one has been done for you.

a)  $30\% = \frac{30}{100} = \frac{\square}{10}$

d)  $42\% = \frac{\square}{\square}$

b)  $45\% = \frac{\square}{100} = \frac{\square}{20}$

e)  $71\% = \frac{\square}{\square}$

c)  $38\% = \frac{\square}{100} = \frac{\square}{\square}$

f)  $92\% = \frac{\square}{\square}$

- 6** Use a calculator to convert these fractions to decimals.

- a) Copy the full display from your calculator screen.

$\frac{1}{7}$      $\frac{2}{7}$      $\frac{3}{7}$      $\frac{4}{7}$      $\frac{5}{7}$      $\frac{6}{7}$      $\frac{7}{7}$

- b) Some of the decimals in part a) are known as recurring decimals. Which ones do you think are called this? Why?
- c) Work with a partner to find more fractions that are recurring decimals.

- 7** Write the next three terms in each sequence.

Give your answers as fractions, decimals and percentages.

a)  $0.1, \frac{1}{5}, 30\%, \underline{\quad}, \underline{\quad}, \underline{\quad}$

b)  $\frac{1}{5}, 0.25, 30\%, \underline{\quad}, \underline{\quad}, \underline{\quad}$

