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.

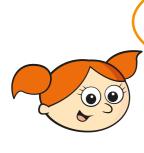| $\frac{17}{20}$ | $\frac{33}{40}$ | $\frac{43}{50}$ | $\frac{21}{25}$ |

| 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.

$\frac{3}{8} = 3 \times 12\frac{1}{2}$ % = ☐ % = ☐

$\frac{5}{8}$ = _____ = ☐ % = ☐

$\frac{7}{8}$ = × _____ = ☐ % = ☐

3 Look at the results in the table.

Percentage	Calculation	Decimal
40%	40 ÷ 100	0.4
42%	42 ÷ 100	0.42
42.7%	42.7 ÷ 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 ÷ 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) $30\% = \dfrac{30}{100} = \dfrac{\boxed{}}{10}$

b) $45\% = \dfrac{\boxed{}}{100} = \dfrac{\boxed{}}{20}$

c) $38\% = \dfrac{\boxed{}}{100} = \boxed{}$

d) $42\% = \boxed{}$

e) $71\% = \boxed{}$

f) $92\% = \boxed{}$

6 Use a calculator to convert these fractions to decimals.

a) Copy the full display from your calculator screen.
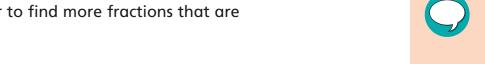
$\dfrac{1}{7} = $ _____

$\dfrac{2}{7} = $ _____

$\dfrac{3}{7} = $ _____

$\dfrac{4}{7} = $ _____

$\dfrac{5}{7} = $ _____

$\dfrac{6}{7} = $ _____

$\dfrac{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) $0.1, \dfrac{1}{5}, 30\%,$ ___ , ___ , ___

fractions: $\boxed{}\ \boxed{}\ \boxed{}$

decimals: $\boxed{}\ \boxed{}\ \boxed{}$

percentages: $\boxed{}\ \boxed{}\ \boxed{}$

b) $\dfrac{1}{5}, 0.25, 30\%,$ ___ , ___ , ___

fractions: $\boxed{}\ \boxed{}\ \boxed{}$

decimals: $\boxed{}\ \boxed{}\ \boxed{}$

percentages: $\boxed{}\ \boxed{}\ \boxed{}$