

# Express one number as a fraction or a percentage of another without a calculator

1 Complete the conversions.

a)  $\frac{1}{2} = \frac{\boxed{\phantom{00}}}{100} = \boxed{\phantom{00}}\%$

$\times 50$  (up arrow)  
 $\times 50$  (down arrow)

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

$\times \boxed{\phantom{00}}$  (up arrow)  
 $\times \boxed{\phantom{00}}$  (down arrow)

b)  $\frac{1}{5} = \frac{\boxed{\phantom{00}}}{100} = \boxed{\phantom{00}}\%$

$\times \boxed{\phantom{00}}$  (up arrow)  
 $\times 20$  (down arrow)

f)  $\frac{19}{25} = \frac{\boxed{\phantom{00}}}{100} = \boxed{\phantom{00}}\%$

$\times \boxed{\phantom{00}}$  (up arrow)  
 $\times \boxed{\phantom{00}}$  (down arrow)

c)  $\frac{3}{5} = \frac{\boxed{\phantom{00}}}{100} = \boxed{\phantom{00}}\%$

$\times \boxed{\phantom{00}}$  (up arrow)  
 $\times \boxed{\phantom{00}}$  (down arrow)

g)  $\frac{160}{200} = \frac{\boxed{\phantom{00}}}{100} = \boxed{\phantom{00}}\%$

$\times \boxed{\phantom{00}}$  (up arrow)  
 $\times \boxed{\phantom{00}}$  (down arrow)

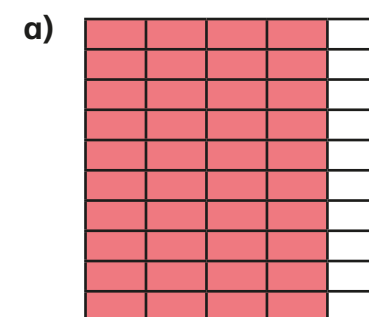
d)  $\frac{7}{10} = \frac{\boxed{\phantom{00}}}{100} = \boxed{\phantom{00}}\%$

$\times \boxed{\phantom{00}}$  (up arrow)  
 $\times \boxed{\phantom{00}}$  (down arrow)

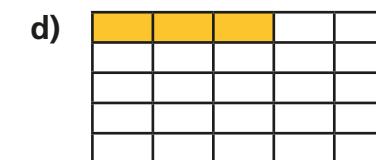
h)  $\frac{220}{500} = \frac{\boxed{\phantom{00}}}{100} = \boxed{\phantom{00}}\%$

$\times \boxed{\phantom{00}}$  (up arrow)  
 $\times \boxed{\phantom{00}}$  (down arrow)

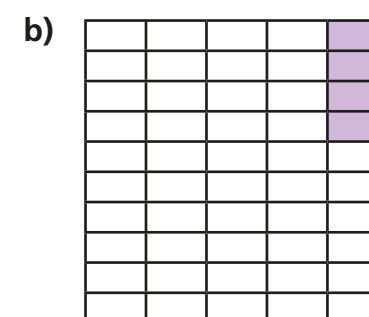
2 Work out what fraction and what percentage of each grid is shaded.



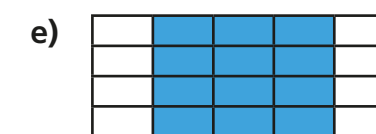
fraction =  $\frac{\boxed{\phantom{00}}}{\boxed{\phantom{00}}}$   
percentage =  $\boxed{\phantom{00}}\%$



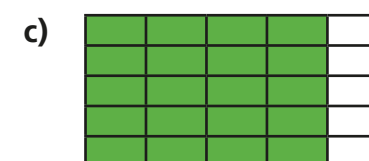
fraction =  $\frac{\boxed{\phantom{00}}}{\boxed{\phantom{00}}}$   
percentage =  $\boxed{\phantom{00}}\%$



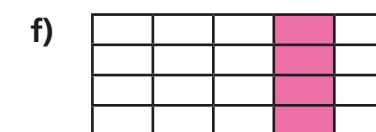
fraction =  $\frac{\boxed{\phantom{00}}}{\boxed{\phantom{00}}}$   
percentage =  $\boxed{\phantom{00}}\%$



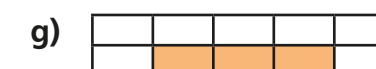
fraction =  $\frac{\boxed{\phantom{00}}}{\boxed{\phantom{00}}}$   
percentage =  $\boxed{\phantom{00}}\%$



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percentage =  $\boxed{\phantom{00}}\%$

3 Brett has a £20 note. He spends £3 on lunch and £8 on a book.

- a) What fraction of his money does he have left?  
b) What percentage of his money does he have left?

%

c) How do your answers change if Brett starts with five £5 notes?



4 Express the first quantity as a fraction and a percentage of the second quantity.

a) 17 m, 20 m

d) £130, £1,000

%

%

b) £16, £25

e) 650 g, 1 kg

%

%

c) 3 cm, 50 cm

f) 18 cm, 2 m

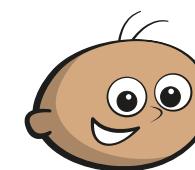
%

%

- 5 a) Dani scores 16 out of 20 in a maths test and 18 out of 25 in an English test.  
By converting her marks to percentages, work out which test Dani did better on. Show your working.

Dani did better on the \_\_\_\_\_ test.

b)



I got 28 out of 40 in my geography test. I can't turn this into a percentage without a calculator because 40 isn't a factor of 100

Tommy is wrong.

Complete the working to show his test mark as a percentage.

$$\begin{array}{c} \div \boxed{\phantom{00}} \times \boxed{\phantom{00}} \\ \downarrow \quad \downarrow \\ \frac{28}{40} = \frac{\boxed{\phantom{00}}}{10} = \frac{\boxed{\phantom{00}}}{100} = \boxed{\phantom{00}}\% \\ \uparrow \quad \uparrow \\ \div 4 \times \boxed{\phantom{00}} \end{array}$$

6 Convert these test marks into percentages.

a) 18 out of 30

c)  $\frac{90}{150}$

%

b)  $\frac{38}{40}$

d)  $\frac{42}{60}$

%

- 7 In a 400 g pack of Fruitee Loops cereal, 120 g is sugar.  
In a 260 g pack of Nutz Calore cereal, 91 g is sugar.  
Which cereal contains the higher percentage of sugar?  
Explain your answer.

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