Expressing one number as a percentage of another

To express one number as a percentage of another, form a fraction using these two numbers and multiply it by 100.

Note that the number that is being expressed as a percentage is placed in the numerator of the fraction. For example, if we need to express 5 as a percentage of 20, we put 5 in the numerator and 20 in the denominator of a fraction (that is, $\frac{5}{20}$).

WORKED Example

Express 18 as a percentage of 34.

Solution

Form a fraction by placing 18 in the numerator and 34 in the denominator.

$$\frac{18}{34}$$

To change a fraction into a percentage, multiply by 100.

$\frac{18}{34} \times 100 = \frac{18}{34} \times \frac{100}{1}$ (Write 100 as a fraction by putting it over 1.)

$= \frac{1800}{34}$ (Multiply numerators together and denominators together.)

$= 52.94\%$ (Divide the numerator by the denominator, giving the answer correct to two decimal places.)

Try these

For each of the following, express the first number as a percentage of the second number, giving your answer correct to two decimal places.

1 42, 53	**2** 13, 75	**3** 34, 150
4 47, 95	**5** 3, 21	**6** 12, 35
7 23, 60	**8** 256, 780	**9** 7, 65
10 5, 41	**11** 12, 28	**12** 37, 61
13 341, 730	**14** 11, 25	**15** 15, 24