

DCU School of Mathematical Sciences  
BASIC SKILLS WORKSHEET 4  
Algebra II - Formulae and Transposition

*The aim of this worksheet is to revise evaluating and transposing formulae.*

**Introduction**

A major use of algebra is for writing down rules about e.g. science, economics, engineering in a concise way. For example, consider the total revenue generated by selling a certain number of cars at a certain price. We could write

$$\text{total revenue} = \text{number of cars} \times \text{price of each car.}$$

However it makes life a bit easier if we just abbreviate this by using some definitions. Let

$$\begin{aligned} T &= \text{total revenue,} \\ P &= \text{price of car,} \\ Q &= \text{quantity (or number) of cars.} \end{aligned}$$

Then we get the simple equation

$$T = PQ.$$

An equation like this which must always be true for the variables  $T, P, Q$  is called a formula.

**Exercise 1**

In the following examples, invent names (single letters) for the relevant quantities, and write down the formula which is described in words.

1. The average speed of a car is the distance travelled divided by the time taken.
  
  
2. The area of a rectangle is the length multiplied by the breadth.
  
  
3. Temperature in Farenheit is found by multiplying temperature in Celsius by 1.8 and then adding 32.