AQA Core 3 Algebra and functions

Section 1: Functions

Crucial points

1. **Make sure that you know what all of the terminology means**
   Check that you know the meaning of all the terminology relating to mappings and functions, and in particular, when a mapping is a function. See the Glossary if you need help.

2. **For composite functions, make sure you are applying the functions in the right order**
   Be careful to apply functions in the correct order when finding composite functions. Remember that the function fg means "first apply g, then apply f to the result".

3. **Remember: only a one-to-one function has an inverse function**
   Sometimes you can define a function with a restricted domain so that it does have an inverse function: for example, $f(x) = x^2$ is a many-to-one function for $x \in \mathbb{R}$, and so does not have an inverse, but if the domain is restricted to $x \geq 0$, then the function is one-to-one and the inverse function $f^{-1}(x) = \sqrt{x}$

4. **When finding the domain or range for f^{-1}, look at the limits of the original function**
   Notice that the domain of an inverse function f^{-1} is the same as the range of f, and the range of f^{-1} is the same as the domain of f.