# Functions and graphs

For help with the definition of a function and its domain and range.
Functions: the domain and range (pdf, 119KB)

For further help with domain and range of functions, shifting and reflecting their graphs, with examples including absolute value, piecewise and polynomial functions.
Functions and their graphs (pdf, 2.3MB)

For help with straight lines, their graphs, and finding their gradients and intercepts.
Functions and straight line graphs (pdf, 113KB)

For an introduction to polynomials (such as quadratics and cubics), their basic shapes and their behaviour for large values of $x$.
Graphs of polynomials (pdf, 93KB)

For help with the graphs of the exponential functions $y = 2^x, y = 2^{-x}, y = b^x, y = b^{-x}, y = e^x$ and $y = e^{-x}$.
Exponential functions (pdf, 136KB)

For help with the logarithm function $y = \log{(x)}$, $y = \log_b(x)$, and the natural logarithm $y = \ln{(x)}$.
Logarithmic functions and log laws (pdf, 167KB)

For help with powers such as $b^2$, $b^{\frac{1}{2}}, b^{-1}$, the exponential functions $y = 2^x$, $y = b^x$, $y = e^x$, and the logarithm functions $y = \log{(x)}$ and $y = \ln{(x)}$, as well as log and exponential rules.
Introduction to exponentials and logarithms (pdf, 2.1MB)

For help with parabolic functions, exponential functions with applications for economics and business.
Working with quadratics and exponential graphs (pdf, 131KB)

For help with radian measure, trigonometry in triangles, the $\sin{(x)}$, $\cos{(x)}$ and $\tan{(x)}$, functions, graphs of trigonometric functions, inverse trig. and some simple differentiation of trig. functions.
Introduction to trigonometric functions (pdf, 2.3MB)