

Year 12 M7:Higher Tier

Number and Algebra Overview

Learning Outcomes

You should be able to:

- use surds and π in exact calculations;
- use index notation and index laws for zero, positive and negative powers;
- interpret, order and calculate with numbers written in standard index form;
- use index laws in algebra for integer powers;
- set up and solve two linear simultaneous equations algebraically;
- solve linear inequalities in two variables representing the solution set on a graph;
- change the subject of a formula, including cases where a power or root of the subject appears and including cases where the subject appears in more than one term;
- find the n th term of non-linear sequences;
- recognise, sketch and interpret graphs of linear functions, quadratic functions, simple cubic functions and the reciprocal function $y=a/x$ with $x \neq 0$;
- generate points and plot graphs of simple quadratic functions and use these to find approximate solutions for points of intersection with lines of the form $y=mx+c$; and
- set up equations and solve problems involving direct proportion, including graphical and algebraic representations.