



Belconnen High School

COURSE OUTLINE Semester 2, 2026

Course Title: **9 Mathematics PEP**

Faculty: **Mathematics**

Faculty Head: Abhinay Chand

Description of Course

This semester, students explore key concepts in algebra, geometry, statistics, and probability. They calculate distances, gradients, and midpoints on the Cartesian plane and use linear and quadratic functions to model real-life situations, including financial contexts. Students graph quadratic functions, solve equations algebraically, and analyse how changes to equations affect their graphs. In statistics, they compare multiple data sets, interpret distributions and outliers, and evaluate how sampling methods and data presentation can influence conclusions. In probability, students investigate compound events and assign probabilities. Throughout the semester, they apply mathematical reasoning to solve problems and communicate their findings clearly.

Learning Outcomes

- Finds the distance between 2 points on the Cartesian plane, and the gradient and midpoint of a line segment
- Uses mathematical modelling to solve problems involving change in financial and other applied contexts, choosing to use linear and quadratic functions
- Graphs quadratic functions and solves monic quadratic equations with integer roots algebraically
- Describes the effects of variation of parameters on functions and relations, using digital tools, and makes connections between their graphical and algebraic representations
- Compares and analyses the distributions of multiple numerical data sets, chooses representations, describes features of these data sets using summary statistics and the shape of distributions, and considers the effect of outliers
- Explains how sampling techniques and representation can be used to support or question conclusions or to promote a point of view
- Determines sets of outcomes for compound events and represents these in various ways
- Assigns probabilities to the outcomes of compound events

Materials Required

Students will have access to a google classroom where class tasks and assessment items will be displayed, therefore a device is required. The assessment dates for this subject will appear on the students google calendar. Students can refer to the BHS Study Skills Guide and the BHS website for assistance with assessment tasks. The Assessment and Reporting Policy is available on the school website. Items Required Chromebook or suitable device Notebooks, pencil case and equipment

Homework Required

Students will be expected to complete a variety of tasks outside of class time. This may include, teacher-set homework, research for tasks, revision for tests, review of class work and more.

Assessment Schedule

	Due Date	% Weighting
Cartesian Plane Test	07/08/2026	
Quadratics Test	02/09/2026	
Finance Assignment	23/09/2026	
Statistics Assignment	18/11/2026	
Probability Test	02/12/2026	
Classwork	04/12/2026	