Year 10
Higher
Spring Term

Sparx Maths

BUDEHAVEN MATHS

One and all

Articulate Represent Connect

Weeks 1 & 2

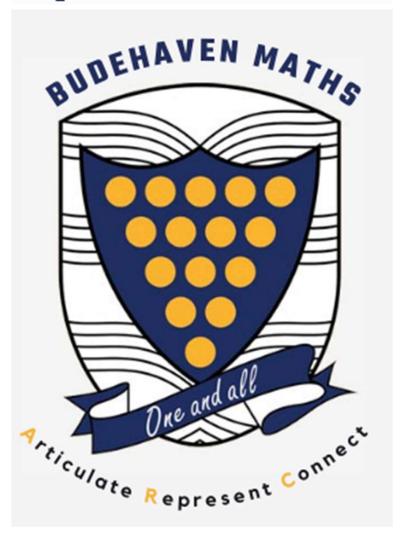## Unit 5: Angles and Bearings

Learning Objectives:

- ❑ Drawing and interpreting scale diagrams (U257)
- ❑ Measuring and drawing bearings (U525)
- ❑ Calculating bearings (U107)
- ❑ Calculating with trigonometry and bearings (U164)

Weeks 3 & 4

Unit 6: Working with circles

Learning Objectives:

- ❑ Identifying parts of circles (U767)
- ❑ Finding the circumference of circles (U604)
- ❑ Finding the area of circles (U950)
- ❑ Finding the arc length of sectors (U221)
- ❑ Finding the area of sectors (U373)
- ❑ Angles subtended at the centre or circumference of a circle (U459)
- ❑ Angles in segments and cyclic quadrilaterals (U251)
- ❑ Finding the volume of cylinders (U915)
- ❑ Finding the volume of cones (U116)
- ❑ Finding the volume of spheres (U617)
- ❑ Finding the surface area and volume of similar shapes (U110)
- ❑ Finding the surface area of cylinders (U464)
- ❑ Finding the surface area of cones (U523)
- ❑ Finding the surface area of spheres (U893)

Weeks 5 & 6

Unit 7: Vectors

Learning Objectives:

- ❑ Understanding column vectors (U632)
- ❑ Adding and subtracting column vectors (U903)
- ❑ Multiplying column vectors by a scalar (U564)
- ❑ Solving geometric problems using vectors (U781)
- ❑ Identifying parallel vectors (U660)

Weeks 1 & 2

Unit 8: Ratios & fractions

Learning Objectives:

- ❑ Writing and simplifying ratios (U687)
- ❑ Using equivalent ratios to find unknown amounts (U753)
- ❑ Converting between ratios, fractions and percentages (U176)
- ❑ Sharing amounts in a given ratio (U577)
- ❑ Problem solving: Sharing amounts in a given ratio (Higher) (U595)
- ❑ Combining ratios (U921)
- ❑ Calculating with ratios and algebra (U676)
- ❑ Changing ratios (U865)

Weeks 3 & 4

Unit 9: Percentages & Interest

Learning Objectives:

- ❑ Finding percentages of amounts without a calculator (U554)
- ❑ Finding percentages of amounts with a calculator (U349)
- ❑ Percentage change without a calculator (U773)
- ❑ Percentage change with a calculator (U671)
- ❑ Finding original values in percentage calculations (U286)
- ❑ Finding the percentage an amount has been changed by (U278)
- ❑ Simple interest calculations (U533)
- ❑ Compound interest calculations (U332)
- ❑ Growth and decay (U988)
- ❑ Substituting into iterative formulae (U434)
- ❑ Finding approximate solutions to equations using iteration (U168)

Week 5 & 6

Unit 10: Probability

Learning Objectives:

- ❑ Venn diagrams (U476)
- ❑ Venn diagrams with set notation (U748)
- ❑ Using set notation (U296)
- ❑ Frequency trees (U280)
- ❑ Tree diagrams for independent events (U558)
- ❑ Tree diagrams for dependent events (U729)
- ❑ Calculating experimental probabilities (U580)
- ❑ Conditional probabilities from tables (U246)
- ❑ Conditional probabilities from Venn diagrams (U699)
- ❑ Using the conditional probability formula (U821)
- ❑ Conditional probabilities from tree diagrams (U806)