

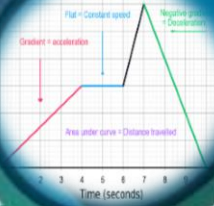
# Year 10 Mathematics

GUNNERSBURY  
CATHOLIC SCHOOL



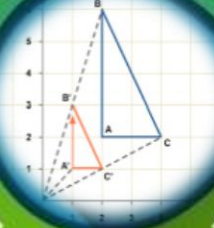
## Ratio, speed and proportion

- ✓ Ratio
- ✓ Speed, distance and time
- ✓ Direct proportion problems
- ✓ Best buys



## Transformations

- ✓ Rotational symmetry
- ✓ Translation
- ✓ Reflections
- ✓ Rotations
- ✓ Enlargements
- ✓ Using more than one transformation



## Perimeter and area

- ✓ Rectangles
- ✓ Compound shapes
- ✓ Area of a triangle
- ✓ Area of a parallelogram
- ✓ Area of a trapezium
- ✓ Circles
- ✓ The area of a circle
- ✓ Answers in terms of  $\pi$



## Probability and events

- ✓ Calculating probabilities
- ✓ Probability that an outcome will not happen
- ✓ Mutually exclusive and exhaustive outcomes
- ✓ Experimental probability
- ✓ Expectation
- ✓ Choices and outcomes



## Linear equations

- ✓ Solving linear equations
- ✓ Solving equations with brackets
- ✓ Solving equations with the variable on both sides



## Volume and surface area of prisms

- ✓ 3D shapes
- ✓ Volume and surface area of a cuboid
- ✓ Volume and surface area of a prism
- ✓ Volume and surface area of cylinders

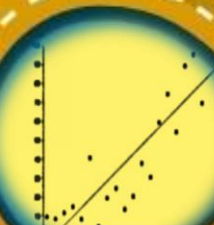
## Percentages and compound measures

- ✓ Equivalent percentages, decimals and fractions
- ✓ Calculating a percentage of a quantity
- ✓ Increasing and decreasing quantities by a percentage
- ✓ Expressing one quantity as a percentage of another
- ✓ Compound measures

$y \propto x$	$y = kx$	
$x^2$	$y \propto x^2$	$y = kx^2$
$x^3$	$y \propto x^3$	$y = kx^3$
$y \propto \sqrt{x}$		

## Percentages and variation

- ✓ Compound interest and repeated percentage change
- ✓ Reverse percentage (working out the original value)
- ✓ Direct proportion
- ✓ Inverse proportion



## Construction and loci

- ✓ Constructing triangles
- ✓ Bisectors
- ✓ Defining a locus
- ✓ Loci problems



## Representation and interpretation

- ✓ Sampling
- ✓ Pie charts
- ✓ Scatter diagrams
- ✓ Grouped data and averages

## Right-angled triangles

- ✓ Pythagoras' theorem
- ✓ Calculating the length of the shorter side
- ✓ Applying Pythagoras' theorem in real-life situations
- ✓ Pythagoras' theorem and isosceles triangles
- ✓ Trigonometric ratios
- ✓ Calculating lengths using trigonometry
- ✓ Calculating angles using trigonometry
- ✓ Trigonometry without a calculator
- ✓ Solving problems using trigonometry
- ✓ Trigonometry and bearings
- ✓ Trigonometry and isosceles triangles

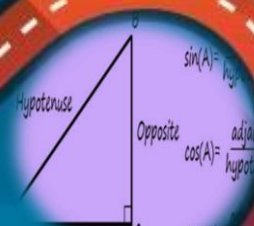


## Curved shapes and pyramids

- ✓ Sectors
- ✓ Pyramids
- ✓ Cones
- ✓ Spheres

## Number and sequences

- ✓ Patterns in number
- ✓ Number sequences
- ✓ Finding the nth term of a linear sequence
- ✓ Special sequences
- ✓ General rules from given patterns



To be continued  
in Year 11