

Year 9 GCSE Mathematics (Foundation)

GUNNERSBURY
CATHOLIC SCHOOL



Basic number

- ✓ Place value and ordering numbers
- ✓ Order of operations and BIDMAS
- ✓ The four rules

Charts, tables & averages

- ✓ Frequency tables
- ✓ Statistical diagrams
- ✓ Line graphs
- ✓ Statistical averages

Number properties

- ✓ Multiples of whole numbers
- ✓ Factors of whole numbers
- ✓ Prime numbers
- ✓ Prime factors, LCM and HCF
- ✓ Square numbers
- ✓ Square roots
- ✓ Basic calculations on a calculator

Decimals and fractions

- ✓ Calculating with decimals
- ✓ Fractions and reciprocals
- ✓ Writing one quantity as a fraction of another
- ✓ Adding and subtracting fractions
- ✓ Multiplying and dividing fractions
- ✓ Fractions on a calculator

Expressions and formula

- ✓ Basic algebra
- ✓ Substitution
- ✓ Expanding brackets
- ✓ Factorisation
- ✓ Quadratic expansion
- ✓ Quadratic factorisation
- ✓ Changing the subject of a formula

Ratio, speed and proportion

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

Measures & scale drawings

- ✓ Systems of measurement
- ✓ Conversion factors
- ✓ Scale drawings
- ✓ Nets
- ✓ Using an isometric grid

Angles

- ✓ Angles facts
- ✓ Triangles
- ✓ Angles in a polygon
- ✓ Regular polygons
- ✓ Angles in parallel lines
- ✓ Special quadrilaterals
- ✓ Bearings

Approximations

- ✓ Rounding whole numbers
- ✓ Rounding decimals
- ✓ Approximating calculations

Linear graphs

- ✓ Graphs and equations
- ✓ Drawing linear graphs by finding points
- ✓ Gradient of a line
- ✓ $y = mx + c$
- ✓ Finding the equation of a line from its graph
- ✓ The equation of a parallel line
- ✓ Real-life uses of graphs
- ✓ Solving simultaneous equations using

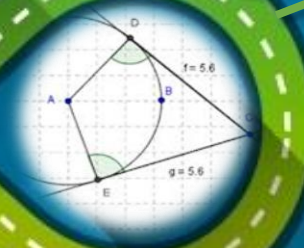
Perimeter and area

- ✓ 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 π

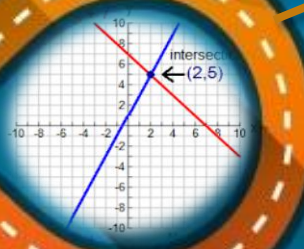
$2 \times 10^4 = 20,000$
 $6.9 \times 10^5 \div 3 \times 10^3 = 23 \times 10^2$
 $75 \times 10^3 \div 15 \times 10^{-1} = 5 \times 10^7$
 $28 \times 10^{-6} \div 7 \times 10^{-3} = 4 \times 10^{-4}$

Calculate forty million divided by eight thousand.
 $40,000,000 \div 8,000 = 4 \times 10^7 \div 8 \times 10^3$

mass of one atom of hydrogen is 167
 mass of twenty thousand



$$\frac{3}{4} \div \frac{2}{3} = \frac{3}{4} \times \frac{3}{2}$$



$$x - (2 - 5) + 2x = 10$$

$$x - 1 = \frac{x + 5}{5}$$



To be continued
in Year 10