



Learning Journey

A good maths GCSE at grade 4 or 5 will support your application for college and sixth form courses, apprenticeship and job opportunities.

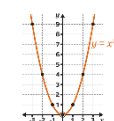


YEAR 12+



Written Exam 3 Papers

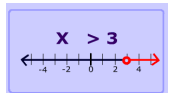
Exam Questions and Techniques



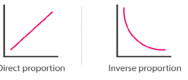
Quadratic Graphs

Exponential Growth Problem
 $f(t) = a(1+r)^t$
a = initial amount
r = rate of increase (growth rate)
t = time

Growth & Decay



Inequalities



Direct and Inverse Proportion

Expanding
 $2(g+4) = 2g+8$

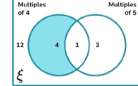
Algebra Recap and Extension



Ratio and Proportion Review

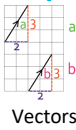
Simultaneous Equations
$$\begin{cases} 3x+4y=24 & (1) \times 3 \\ 4x+3y=22 & (2) \times 4 \\ \hline y=12 \end{cases}$$

Simultaneous Equations

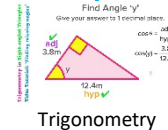


Probability

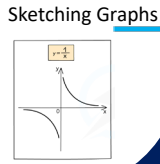
Solving Quadratic Equations
 $x^2 + 3x - 4 = 0$



Vectors

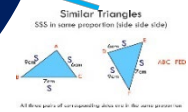


Trigonometry



Sketching Graphs

Congruence and Similarity



YEAR 11

radius r
 $C = 2\pi r$
 $A = \pi r^2$

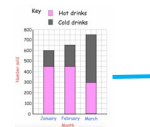
Further Circumference and Area



Statistical Measures

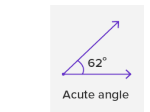
HOW TO USE
 $y = mx + c$

Graphs Recap and Extension



Collecting and Representing Data

Basic Probability Review



Angles

Basic Number
 $-1, 46, 8, -14, -68, -29, 54, -22, -29, 34, 77, 78, -97, 31, 150, -45, -1, -3$

Basic Number

Further Area and Perimeter
 $A = \frac{1}{2}(a+b)h$

Further Area and Perimeter

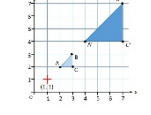
List of Indices Laws

Indices



Calculating with Percentages

Transformations



Algebra; Quadratics and Rearranging Formulae
Quadratic Functions

Quadratic Functions
 $y = ax^2 + bx + c$
 $y = a(x-h)^2 + k$
 $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$
 $ax^2 + bx + c = 0$

Algebra; Quadratics and Rearranging Formulae

Sequences
6, 10, 14, 18, 22

Sequences

Scale Drawings and Bearings



Scale Drawings and Bearings

Volume



Volume

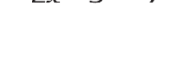
Properties of Polygons



Properties of Polygons

Algebra and Graphs
 $2x - 3 = -7$

Algebra and Graphs



Algebra and Graphs

Basic Probability

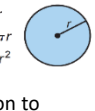


Basic Probability



Constructions and Loci

Constructions and Loci



Introduction to Circumference and Area

Introduction to Circumference and Area

Basic Algebra
 $6x+2 = 2(3x+1)$

Basic Algebra

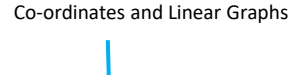
Basic Fractions
 $\frac{5}{3} + \frac{2}{9} = \frac{10}{9} + \frac{2}{9} = \frac{12}{9} = \frac{4}{3}$

Basic Fractions

Equations
 $2x - 3 = -7$

Equations

Co-ordinates and Linear Graphs



Co-ordinates and Linear Graphs

Ratio and Proportion
 $\frac{20}{5} = \frac{32}{8}$

Ratio and Proportion

Standard Form
 2.9×10^1
 3.50×10^2

Standard Form

radius r
 $C = 2\pi r$
 $A = \pi r^2$

Introduction to Circumference and Area

Introduction to Circumference and Area

Positive correlation
As one variable increases so does the other variable.

Scatter graphs



Scatter graphs

YEAR 9

Basic Number
 $-1, 46, 8, -14, -68, -29, 54, -22, -29, 34, 77, 78, -97, 31, 150, -45, -1, -3$

Basic Number

Basic Decimals
45.6

Basic Decimals

Rounding
 $x = 30$ to the nearest ten
 $25 \leq x < 35$

Rounding

Basic Percentages
73% of 680

Basic Percentages

Perimeter and Area
 $A = \frac{bh}{2} = \frac{6 \times 8}{2}$

Perimeter and Area

Scatter graphs
Positive correlation

Scatter graphs

Powers and Roots
 $\sqrt{1} = 1$
 $\sqrt{4} = 2$
 $\sqrt{9} = 3$

Powers and Roots

Area and Volume
Volume

Area and Volume

Constructions
Rounding

Constructions

Algebra Recap
 $6x+2 = 2(3x+1)$

Algebra Recap

Arithmetic with Fractions
 $\frac{7 \times 1}{7 \times 2} + \frac{3 \times 2}{7 \times 2} = \frac{7+6}{14} = \frac{13}{14}$

Arithmetic with Fractions

Calculating Space
a)

Calculating Space

Angles
Angles around a point add to 360°

Angles

Addition & Subtraction of Fractions
Adding Fractions
 $\frac{3}{10} + \frac{2}{6}$

Addition & Subtraction of Fractions

Proportion
Ratio & Proportion

Proportion

Averages
mean 5
median 6

Averages

Equations
 $x+3=8$
 $x+3-3=8-3$

Equations

YEAR 8

Measuring Space
cm

Measuring Space

Finding percentages and fractions
 $30\% \text{ of } 160 = \frac{3}{10} \times 160 = 160 \div 10 \times 3 = 48$

Finding percentages and fractions

Fraction Decimal Percentages
percentage fraction decimal
30% 3/10 0.3

Fraction Decimal Percentages

Transformations
Shape A, Shape B, centre of rotation

Transformations

Sequences
19, 15, 11, 7 ...

Sequences

Angles
Angles around a point add to 360°

Angles

Averages
6 is the Median

Averages

Multiplication & Division
Collect like terms
 $4a + 5 + 2a - 3 = 6a + 2$

Multiplication & Division

Rounding
Rounding Numbers
2,348 to 2,400
2,300

Rounding

Proportion
Proportion

Proportion

Transformations
Transformations

Transformations

Angles
Right angle

Angles

Y6 SATS
Year 6 SATs

Y6 SATS

YEAR 8

Negative Numbers
 $-3 \times -5 = 15$

Negative Numbers

Presenting Data
Presenting Data

Presenting Data

The Number System
The Number System

The Number System

Angles
Right angle

Angles

Y6 SATS
Year 6 SATs

Y6 SATS