

## Year 8 Half term 1

Name:- \_\_\_\_\_

Teacher:-

Ratio and scale	comment	Sparx clip
Understand the meaning and representation of ratio		M885
Understand and use ratio notation		M885
Solve problems involving ratios of the form 1:n or n:1		
Solve proportional problems involving the ratio m:n		M801, M478
Divide a value into a given ratio		M525
Express ratios in their simplest integer form		M885
H. Express ratios in the form 1:n		M543
Compare ratios and related fractions		M267
Understand $\pi$ as the ratio between diameter and circumference		M169
H. Understand gradient of a line as a ratio		

Multiplicative change	comment	Sparx clip
Solve problems involving direct proportion		M478
Explore conversion graphs		
Convert between currencies		U610
H. Explore direct proportion graphs		M448
Explore relationships between similar shapes		M337
Understand scale factors as multiplicative representations		M324
Draw and interpret scale diagrams		Q795, M112
Interpret maps and using scale factors and ratios		M112

Multiplying and dividing fractions	comment	Sparx clip
Represent multiplication of fractions		M157
Multiply a fraction by an integer		Q912
Find the product of a pair of unit fractions		Q129
Find the product of any pair of fractions		M157
Divide an integer by a fraction		M110
Divide a fraction by a unit fraction		M110
Understand and use the reciprocal		M110
Divide any pair of fractions		M110
H. Multiply and divide improper and mixed fractions		M197, M265
H. Multiply and divide algebraic fractions		



The Cartesian plane	comment	Sparx clip
Work with coordinates in all four quadrants		M618
Identify and draw lines parallel to the axes		M797
Recognise and use the line $y=x$		M932
Recognise and use lines of the form $y = kx$		M932
Link $y = kx$ to direct proportion problems		M448
H. Explore the gradient of the line $y = kx$		
Recognise and use lines of the form $y = x + a$		M932
Explore graphs with a negative gradient		
Link graphs to linear sequences		
Plot graphs of the form $y = mx + c$		M932
H. Explore non-linear graphs		U980
H. Find the mid-point of a line segment		M622

Representing data	comment	Sparx clip
Draw and interpret scatter graphs		M769, M596
Understand and describe linear correlation; use a line of best fit		M596
Identify non-linear relationships		
Identify different types of data		M493
Read and interpret ungrouped frequency tables		
Read and interpret grouped frequency tables		Q478
Represent grouped discrete data		Q337
Represent continuous data grouped into equal classes		Q337
Represent data in two-way tables		U981

Tables and probability	comment	Sparx clip
Construct sample spaces for 1 or more events		M718
Find probabilities from a sample space		U104
Find probabilities from a two-way table		M899
Find probabilities from a Venn diagram		M829, M419
H. Use the product rule for counting		U369



<b>Brackets, equations and inequalities</b>	comment	HM clip
Form algebraic expressions		M795, M531
Use directed number with algebra		M813, M830
Multiply out a single bracket		M237
Factorise into a single bracket		M100
Expand multiple single brackets and simplify		M792
H. Expand a pair of binomials		M960
Solve equations, including with brackets		M509
Form and solve equations with brackets		M957
Understand and solve simple inequalities		M384
Form and solve inequalities		M118
H. Solve equations and inequalities with unknowns on both sides		M554, M732
H. Form and solve equations and inequalities, unknowns on both sides		
Identify and use formulae, expressions, identities and equations		M208, M979

<b>Sequences</b>	comment	HM clip
Generate sequences given a rule in words		Q172, M381
Generate sequences given a simple algebraic rule		M166
Generate sequences given a complex algebraic rule		U206, U598
H. Find the rule for the nth term of a linear sequence		M991

<b>Indices</b>	comment	HM clip
Adding and subtracting expressions with indices		M949
Simplifying algebraic expressions by multiplying indices		M135
Simplifying algebraic expressions by dividing indices		M135
Using the addition law for indices		
Using the addition and subtraction laws for indices		M608, M120
H. Exploring powers of powers		

## Year 8 Half term 4

Name:- \_\_\_\_\_

Teacher:-

Fractions and Percentages	comment	Sparx clip
Review: Convert fluently between key fractions, decimals and percentages		M264
Review: Calculate key fractions, decimals and percentages of an amount		M695, M437
Convert between decimals and percentages greater than 100%		
Calculate percentage increase and decrease using a multiplier		M476, M533
Express one number as a fraction or percentage of another		M235
Work with percentage change		
Choose appropriate methods to solve percentage problems		
H. Find the original amount given the percentage less than 100%		M528
H. Find the original amount given the percentage more than 100%		M528
H. Choose appropriate methods to solve complex percentage problems		

Standard Index Form	comment	Sparx clip
Investigate powers of 10		
Work with numbers greater than 1 in standard form		M719
Investigate negative powers of 10		
Work with numbers between 0 and 1 in standard form		M678
Compare and order numbers in standard form		
Add, subtract, multiply and divide numbers in standard form		U290, U264
Use a calculator to work with numbers in standard form		U161
H. Understand and use negative indices		
H. Understand and use fractional indices		U985

Number Sense	comment	Sparx clip
Round numbers to powers of 10, 1 significant figure and decimal places		M994, M431
Estimate the answer to a calculation		M878
H. Understand and use error interval notation		M730
Calculate using the order of operations		M521
Calculate with money		
Convert metric measures of length, weight and capacity		M772, M530, M761
H. Convert metric units of area		
H. Convert metric units of volume		
Solve problems involving time and the calendar		M515, Q303

**Year 8 Half term 5**

Name:- \_\_\_\_\_

Teacher:-

Angles in parallel lines and polygons	comment	Sparx clip
Review: Understand and use basic angles rules and notation		M351, M679
Investigate angles between parallel lines and the transversal		M606
Identify and calculate with alternate and corresponding angles		M606
Identify and calculate with co-interior, alternate and corresponding angles		M606
Solve complex problems with parallel line angles		M606
Review: Constructions of triangles and special quadrilaterals		M565,
Investigate the properties of special quadrilaterals		Q787
Identify and calculate with sides and angles in special quadrilaterals		M393
H. Understand and use the properties of diagonals of quadrilaterals		
Understand and use the sum of exterior angles of any polygon		U427
Calculate and use the sum of the interior angles in any polygon		M653
Calculate missing interior angles in regular polygons		M653
H. Prove simple geometric facts		
H. Construct an angle bisector and a perpendicular line bisector		

Area of trapezia and circles	comment	Sparx clip
Review: Calculate the area of triangles, rectangles and parallelograms		M610, M290
Calculate the area of a trapezium		M705
Calculate the perimeter and area of compound shapes		M303
Investigate the area of a circle		M231
Calculate the area of a circle and parts of a circle		M231, M430

Line symmetry and reflection	comment	Sparx clip
Recognise line symmetry		Q389
Reflect a shape in a horizontal or vertical line		M290
Reflect a shape in a diagonal line		

## Year 8 Half term 6

Name:- \_\_\_\_\_

Teacher:-

The data handling cycle	comment	Sparx clip
Set up a statistical enquiry		
Design and criticise questionnaires		M493
Review; Draw and interpret pictograms, bar charts and vertical line charts		M644, M460
Draw and interpret multiple bar charts		
Review: draw and interpret pie charts		M564, M175
Draw and interpret line graphs		M140, M183
Choose the most appropriate diagram for a given set of data		M450
Represent and interpret grouped quantitative data		
Find and interpret the range		M328
Compare distributions using charts		
Identify mis-leading graphs		

Measures of location	comment	Sparx clip
Understand and use the mean		M940
Understand and use the median		M934
Understand and use the mode		M841
Choose the most appropriate average		
H. Find the mean from an ungrouped frequency table		M127
H. Find the mean from a grouped frequency table		M287
Identify outliers		
Compare distributions using averages and the range		M440