MYTON SCHOOL

KS3 Maths Assessment Statements – Year 7

Developing		Secure		Expert	
Describe and continue a pictorial sequence	☐	Continue numerical sequences	☐	Extending sequences - special sequences	☐
Predict the next term(s) of a sequence	☐	Explain the term-to-term rule of numerical sequences in words	☐	Find missing numbers within a sequence	☐
Use inverse operations	☐	Substitute values into one and two-step expressions	☐	Generate sequences given an algebraic rule	☐
Use diagrams and letters to generalise number operations	☐	Find the range of a set of numbers	☐	Write 10, 100, 1000 etc as powers of ten	☐
Recognise the place value of any integer up to one billion	☐	Find the median of a set of numbers	☐	Write positive integers in the form A x 10^n	☐
Position integers on a number line	☐	Understand place value for decimals	☐	Explore fractions above one, decimals and percentages	☐
Round integers to the nearest power of ten	☐	Position decimals on a number line	☐	Perimeter including algebra	☐
Solve one-step linear equations +/- using inverse operations	☐	Round a number to 1 decimal place	☐	Add and subtract numbers given in standard form (H)	☐
Represent tenths and hundredths on number lines	☐	Round a number to 1 significant figure	☐	Solve problems using the area of trapezia (H)	☐
Understand and use factors and multiples	☐	Solve one-step linear equations involving x/÷ using inverse operations	☐	Use fractions in algebraic context	☐
Find a fraction of a given amount using written methods, a calculator	☐	Understand the meaning of like and unlike terms	☐	Use equivalence to add and subtract decimals and fractions	☐
Find a percentage of a given amount using written methods, a calculator	☐	Convert fluently between simple fractions, decimals and percentages	☐	Add & subtract simple algebraic fractions (H)	☐
Order directed numbers using number lines and symbols	☐	Use and interpret pie charts	☐	Identify the hypotenuse on a right-angled triangle	☐
Calculate with direct number	☐	Identify and use simple equivalent fractions	☐	Use Pythagoras theorem to find missing lengths	☐
Convert between mixed numbers and fractions	☐	Use formal methods for addition and subtraction of decimals	☐	Use Pythagoras theorem on coordinate axes	☐
Add & subtract fractions with the same denominator	☐	Solve problems in context of perimeter	☐	Use known algebraic facts to derive other facts	☐
Classify angles	☐	Solve problems with frequency trees, bar charts and line graphs	☐	Understand and use the complement of a set	☐
Draw and measure angles up to 360 °	☐	Convert metric units	☐		
Identify types of triangle, quadrilateral and polygon	☐	Use formal methods to multiply and divide decimals	☐		
Interpret and create Venn diagrams	☐	Understand and use order of operations	☐		
Calculate the probability of a single event	☐	Solve problems using the area of rectangles, parallelograms and triangles	☐		
Identify line symmetry in a shape	☐	Solve problems using the mean	☐		
Draw reflections with one line of symmetry	☐	Add & subtract fractions with any denominators	☐		
		Add and subtract improper fractions and mixed numbers	☐		
		Understand and use the union and intersection of sets	☐		
		Know and use the vocabulary of probability and the probability scale	☐		
		Know the sum of probabilities of all outcomes is 1	☐		
		Draw reflections using diagonal lines of symmetry	☐		

CURRICULUM INTENT:

All students will become mathematicians who value and confidently apply problem solving techniques beyond the maths classroom. They will strengthen their curiosity and resilience when faced with challenging, multi-step problems that require creative thought and fluent numeracy skills to solve. Students will understand the relevance that logical reasoning and the use of initiative will have in the workplace of the future, leaving school with the skills to be successful in both their personal and professional lives.

Removing Barriers **Community Minded** | Investing in Futures **Aspirational** | Working Together **Respectful** | Self Assured Learners **Engaged**

MYTON SCHOOL

KS3 Maths Assessment Statements – Year 8

Developing		Secure		Expert	
Understand and use the sum of angles at a point and on a line	☐	Calculate angles on parallel lines	☐	Find and use the angle sum of any polygon (H)	☐
Understand and use the equality of vertically opposite angles	☐	Find common factors of a set of numbers including HCF	☐	Use a Venn diagram to calculate the HCF	☐
Know and apply the sum of angles in a quadrilateral	☐	Find common multiples of a set of numbers including the LCM	☐	Express ratios in the form 1:n	☐
Find and use multiples, factors and prime numbers	☐	Write numbers as a product of prime factors	☐	Understand pi as the ratio between diameter and circumference	☐
Recognise square and triangular numbers	☐	Solve proportional problems involving the ratio m:n	☐	Interpret maps using scale factors and ratios	☐
Understand and use ratio notation	☐	Express ratios in their simplest integer form	☐	Multiply and divide improper and mixed fractions	☐
Divide a value into a given ratio	☐	Draw and interpret scale diagrams	☐	Explore the gradient of the line y=kx	☐
Use conversion graphs	☐	Divide an integer by a fraction	☐	Explore non-linear graphs	☐
Convert between currencies	☐	Understand and use reciprocal	☐	Find the midpoint of a line segment	☐
Multiply a fraction by an integer	☐	Divide any pair of fractions	☐	Represent continuous data grouped into equal classes.	☐
Multiply any two fractions together	☐	Recognise and use lines of the form y=kx and y=x+a	☐	Expand a pair of binomials	☐
Working with co-ordinates in all four quadrants	☐	Plot graphs of the form y=mx+c	☐	Solve equations with unknowns on both sides	☐
Identify and draw lines parallel to the axes and the line y=x	☐	Draw and use line of best fit in scatter graph	☐	Form and solve equations with unknowns on both sides	☐
Draw and interpret scatter graphs	☐	Read and interpret grouped frequency tables	☐	Find the rule for the nth term of a linear sequence	☐
Understand and describe linear correlation	☐	Represent data in two-way tables	☐	Explore powers of powers	☐
Multiply out a single bracket	☐	Expand multiple brackets and simplify	☐	Find the original amount given the percentage less than 100%	☐
Factorise into a single bracket	☐	Form and solve equations, including with brackets	☐	Find the original amount given the percentage greater than 100%	☐
Generate sequences given a rule in words	☐	Generate sequences given an algebraic rule	☐	Understand and use of negative indices	☐
Add and subtract expressions with indices	☐	Simplifying algebraic expressions by dividing indices	☐	Understand and use fractional indices	☐
Simplifying algebraic expressions by multiplying indices	☐	Using the addition and subtraction laws for indices	☐	Understand and use error interval notation	☐
Convert fluently between fractions, decimals and percentages	☐	Calculate percentage increase and decrease using a multiplier	☐	Convert metric units of area and volume	☐
Calculate fractions, decimals and percentages using a calculator	☐	Express one number as a fraction or a percentage of another	☐	Prove simple geometric facts	☐
Estimate the answer to a calculation	☐	Compare and order numbers in standard form	☐	Construct an angle bisector	☐
Identify alternate and corresponding and co-interior angles	☐	Add, subtract, multiply and divide numbers in standard form	☐	Construct a perpendicular bisector of a line segment	☐
Investigate the properties of special quadrilaterals	☐	Convert metric measures of length, weight and capacity	☐	Calculate the perimeter and area of a compound shape (2)	☐
Calculate the perimeter and area of a compound shape	☐	Understand and use the sum of exterior angles of any polygon	☐	Compare distributions using charts	☐
Calculate the area of a circle (calc)	☐	Calculate missing interior angles in regular polygons	☐	Identify misleading data	☐
Pictograms, bar and line charts	☐	Calculate the area of a trapezium	☐		
Draw and interpret pie charts	☐	Calculate the area of parts of a circle (calc)	☐		
		Multiple bar charts	☐		
		Draw and interpret line graphs	☐		

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KS3 Maths Assessment Statements – Year 9

Developing		Secure		Expert	
Understand and use the mean, median and mode	☐	Choose the most appropriate average	☐	Find the mean from an ungrouped frequency table	☐
Identify outliers	☐	Compare distributions using averages and the range	☐	Find the mean from a grouped frequency table	☐
Expand multiple brackets and simplify	☐	Expand a pair of binomials	☐	Solve equations and inequalities with unknowns on both sides	☐
Solve equations, including with brackets	☐	Form and solve inequalities	☐	Form/solve equations/inequalities with unknowns on both sides	☐
Understand and solve simple inequalities	☐	Identify and use formulae, expressions, identities and equations	☐	I can calculate with fractional and negative indices	☐
I can round to a given number of decimal places	☐	I can convert between ordinary numbers and standard form	☐	I can specify simple error intervals due to truncation/rounding	☐
I can round to a given number of significant figures	☐	I can rewrite a number in correct standard form notation	☐	I can find upper and lower bounds	☐
I can use rounding to significant figures to estimate answers	☐	I can multiply and divide with numbers written in standard form	☐	I can construct enlargements using negative scale factors	☐
I can transform 2D shapes by translating given a column vector	☐	I can add and subtract with numbers written in standard form	☐	I can perform combinations of transformations	☐
I can transform 2D shapes by reflecting in x=a or y=b lines	☐	I can round to significant figures to estimate in worded problems	☐	I can produce enlargements with fractional/negative scale factors	☐
I can transform 2D shapes by reflecting in diagonal mirror lines	☐	I can construct enlargements using fractional scale factors	☐	I can describe the effects of combinations of transformations	☐
I can transform 2D shapes by rotating them about a point	☐	I can identify and describe which transformation has occurred	☐	I can use the product rule for counting	☐
I can enlarge a shape using a positive integer scale factor	☐	I can find the HCF and LCM of a set of numbers	☐	To find maximum and minimum areas using bounds	☐
I can use a centre of enlargement to transform a shape	☐	I can perform prime factor decompositions	☐	I can expand the product of two or more binomials	☐
I can find the multiples and factors of a given number	☐	I can use prime factor decomposition to find the HCF or LCM	☐	I can solve quadratic equations containing x^2 by factorising	☐
I can recognise, list and define prime numbers	☐	To calculate the area of compound shapes	☐	I can solve quadratic equations using the quadratic formula	☐
I can find the LCM and HCF of a set of numbers	☐	To calculate the surface area of prisms	☐	I can complete the square on an algebraic expression	☐
I can systematically list outcomes	☐	To convert between metric measures of area	☐	I can solve quadratic equations by completing the square	☐
To find perimeters and area of compound shapes	☐	I can construct and measure bearings on diagrams	☐	I can apply Pythagoras' theorem to solve problems in 3D	☐
I can solve an angle problem using the standard angle facts	☐	I can find the bearing of B to A, when given the bearing of A to B	☐	Use the form y = mx + c to identify perpendicular lines	☐
Find the midpoint of two points	☐	I can factorise a quadratic expression of the form $x^2 + bx + c$, including using the difference of two squares	☐	Plot and sketch graphs in the format ax + by = c	☐
Use a table of values to plot graphs of simple linear functions	☐	I can use Pythagoras's theorem to find a missing length	☐	I can change recurring decimals into fractions	☐
Identify the equation of a linear graph from the graph	☐	Find the equation of a straight line through two given points	☐	I can calculate conditional probabilities from a two way table	☐
I can solve problems including the +/-/ x/÷ of fractions	☐	I can +/-/ x/÷ mixed numbers and improper fractions	☐	I can find conditional probabilities from a Venn diagram	☐
I can place theoretical probabilities on the probability scale	☐	I can convert fractions into recurring decimals	☐	I can apply the trigonometric ratios to solve problems in 3D	☐
I can read and complete Venn diagrams	☐	I can find probabilities from a Venn diagram	☐		
I can perform a percentage increase or decrease with and without a calculator	☐	I can use the trigonometric ratios to find a missing length in a right-angled triangle	☐		
		I can use the trigonometric ratios to find a missing angle in a right-angled triangle	☐		
		I know the exact values of sin θ and cos θ for θ = 0°, 30°, 45°, 60° and 90°, and tan θ for θ = 0°, 30°, 45°, 60°	☐		
		I can find the percentage change with multipliers	☐		

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