



Academic Achievement: Rating Descriptors

Subject: Mathematics

Year: 8

In general, based on progress shown so far, we expect that **by the end of this academic year** your child will....

1 Above the expected standard	<ul style="list-style-type: none"> ● find the nth term of an increasing or decreasing linear sequence and some simple quadratic sequences ● know how to use known angle rules to write a clear and logical geometric proof ● create an equation in order to solve a problem which may require use of angle rules ● calculate fluently with percentage and fractional change including reverse problems ● solve problems requiring an understanding of ratio and proportion ● select and apply an efficient approach to solving an equation with brackets ● calculate areas, perimeters, radii and diameters in problems with part circles ● recall and apply volume formulas when finding formulas of composite shapes ● use union and intersection notation and find probabilities in problems. ● recognise and sketch quadratic, cubic, reciprocal and exponential graphs ● identify transformations applied to a shape and give a full description ● fluently apply Pythagoras' Theorem to finding missing lengths in a diagram that contains right angled triangles
2 Meeting the expected standard	<ul style="list-style-type: none"> ● find the nth term of an increasing or decreasing linear sequence ● apply known angle rules to finding missing angles in diagrams, including angles in polygons ● create an equation from a worded problem and solve using inverses ● convert a percentage to a decimal multiplier and apply to calculating percentages ● divide an amount in a given ratio and find a whole or other part given information about one part of a ratio ● expand a single bracket as the first step in solving an equation ● recall and apply the formulas for area and circumference of a circle when solving problems in context ● use inverses to find missing lengths or areas when given a volume ● use the results of an experiment to determine a relative frequency ● use an equation to calculate points to plot in order to draw a linear graph ● draw and describe reflections, rotations, translations and enlargements ● apply Pythagoras' Theorem to finding missing lengths in a diagram that contains right angled triangles
3 Working towards the expected standard	<ul style="list-style-type: none"> ● recognise and apply the term to term rule in different types of sequence ● apply known angle rules to find a missing angle in a diagram, including polygons ● apply inverses to solving a 2-step linear equation ● apply knowledge of percentages as parts per 100, to calculate some percentages without a calculator ● divide an amount in a given ratio ● multiply out a single bracket or factorise an expression into a single bracket using a common factor ● recall and apply the formulas for calculating the area and circumference of a circle ● recall and apply formulas for volumes of common 3D shapes ● select an appropriate method to list all outcomes when determining a probability ● recognise and draw lines of the form $x=a$, $y=b$, $y=x$, $y=-x$ ● draw reflections, rotations, translations and enlargements ● apply Pythagoras' Theorem to finding missing lengths in a right-angled triangle
4 Below the expected standard	<ul style="list-style-type: none"> ● use the term to term rule to continue a linear sequence or pattern of diagrams ● apply known angle rules to find a missing angle ● apply the correct inverse to solve a 1 step equation ● calculate some simple percentages by knowing their fractional equivalent e.g. 50%, 25% and 10% ● simplify a given ratio by identifying common factors ● multiply out a single bracket ● recall and apply formulas for finding perimeters and areas of composite shapes ● recall and apply a method for finding the volume of a cuboid ● use equally likely outcomes to identify a theoretical probability ● plot and identify co-ordinates in 4 quadrants ● identify whether a transformation is a reflection, rotation, translation or enlargement ● find the area of a square given the side length and vice versa