

Subject: Mathematics – Pentecost Term

<p>Pathway 1</p>	<p>Progress objective 2 Algebra</p> <ul style="list-style-type: none"> Plot the graphs of linear functions in the form $y = mx + c$ and recognise and compare their features Work out when a point is on a line Use $y = mx + c$ for any straight line State that for a straight line $y = mx + c$, m is the gradient and $m = (\text{change in } y)/(\text{change in } x)$ Recognise that a line perpendicular to the line $y = mx + c$, will have a gradient of $-1/m$ Recognise when lines are parallel or perpendicular from their equations Find the inverse of a linear function such as $x \rightarrow 2x + 5$ Find solutions to contextual problems from given graphs 	<p>Progress objective 3: Geometry</p> <ul style="list-style-type: none"> Use scales in maps and plans Use and measure bearings Solve angle problems involving bearings Begin to use congruency to solve simple problems in triangles and quadrilaterals Know and use the criteria for congruence of triangles Identify 2-D shapes that are congruent or similar by reference to sides and angles Use similarity to solve problems in 2-D shapes 	<p>Progress objective 5: Probability and Statistics</p> <ul style="list-style-type: none"> Understand and use the probability scale from 0 to 1 Identify all possible mutually exclusive outcomes of a single event Find and justify probabilities based on equally likely outcomes in simple contexts Know that if probability of event is p, probability of not occurring is $1 - p$ Apply estimated probabilities to future data Identify conditions for a fair game Draw and use tree diagrams to represent outcomes of two independent events and calculate probabilities Calculate the probability of independent and dependent events
<p>Pathway 2</p>	<p>Progress objective 1 Number</p> <ul style="list-style-type: none"> Add and subtract fractions with any size denominator. Multiply integers and fractions by a fraction. Convert fractions to decimals. Find the reciprocal of a number. Divide integers and fractions by a fraction Calculate with mixed numbers. Solve problems using fractions Order fractions by converting them to decimals or equivalent fractions. Find equivalent fractions, decimals and percentages. Express one number as a percentage of another. Work out a percentage increase or decrease. Solve percentage problems. 	<p>Progress objective 2: Algebra</p> <ul style="list-style-type: none"> Find gradients of lines. Plot the graphs of linear functions. Find midpoints of line segments. Write the equations of straight line graphs in the form $y = mx + c$. Identify and describe examples of direct proportion. Solve problems involving direct proportion. 	
<p>Pathway 3</p>	<p>Progress objective 1 Number</p> <ul style="list-style-type: none"> Compare two or more fractions with different denominators Calculate fractions of quantities and measurements Add and subtract fractions by writing with a common denominator Simplify fractions by cancelling all common factors Express one number as a fraction of another Multiply a fraction by an integer Calculate simple percentages Use percentages to compare simple proportions Express one given number as a percentage of another 	<p>Progress objective 2: Algebra</p> <ul style="list-style-type: none"> Find terms of sequences arising from practical contexts Find terms of sequences using term-to-term rules like $+3$ or -2 Use the words finite, infinite, ascending and descending to describe sequences Find terms of a more complex sequence using term-to-term rules like $\times 2$ then $+1$, or -1 then $\times 2$ Find terms of linear sequences using term-to-term with positive or negative integers 	<p>Progress objective 5: Probability and Statistics</p> <ul style="list-style-type: none"> Use the language of probability Understand and use the probability scale from 0 to 1 Find probabilities based on equally likely outcomes Work out that if probability of event is p then probability of event not occurring is $1 - p$ Identify all mutually exclusive outcomes for two successive events

KS3 Assessment – Year 8 Progress Grid

- Describe simple integer sequences, square and triangular numbers
- Recognise geometric sequences and other sequences
- Find terms of linear sequences using position-to-term rules
- Estimate probabilities based on given experimental data