Foxford Learning Plan

YEAR 11 Foundation

Averages, charts & graphs
Pythagoras & trigonometry

Key Vocabulary

Frequency	The number of times an event or a value occurs
Average	A number expressing the typical value in a set of data, in particular the mode (most common), median or the mean
Correlation	When two or more sets of data are linked together. Data sets have a positive correlation when they increase together, and a negative correlation when one set increases as the other decreases
Hypotenuse	The side opposite the right angle in a right-angled triangle. It is also the longest side of the right-angled triangle
Congruent	Identical in shape and size
Rotate	Move a shape in a circle round an axis or centre
Translate	Move a shape from one position to another by a given vector
Enlarge	To change the size of a shape by a given scale factor
Scale factor	The ratio between corresponding measurements of an object and a representation of that object

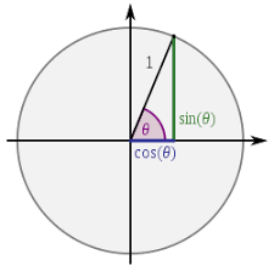
Key Skills

Over the course of the topic, I will be able to: -

Design and read frequency tables and two-way tables
Draw and interpret pictograms, bar charts, line graphs and stem and leaf diagrams
Calculate mean, median mode and range including from frequency tables, and explain results in context
Calculate reverse mean problems
Draw and interpret pie charts
Draw and interpret scatter graphs, use a line of best fit and identify correlation

Understand, recall and use Pythagoras' Theorem in 2D
Calculate the length of the hypotenuse in a right-angled triangle, including decimal lengths and a range of units
Find the length of a shorter side in a right-angled triangle
Calculate the length of a line segment AB given pairs of points
Understand, use and recall the trigonometric ratios sine, cosine and tan, and apply them to find angles and lengths in general triangles
Use the trigonometric ratios to solve 2D problems

Identify congruent shapes
Rotate a shape about the origin or any other point on a coordinate grid
Translate a given shape by a vector
Transform 2D shapes using single reflections (including those not on coordinate grids) with vertical, horizontal and diagonal mirror lines
Enlarge a given shape using a given centre of enlargement
Fully describe transformations



I will Understand

1. How to draw and interpret statistical charts and diagrams
2. How to calculate averages and solve reverse mean problems
3. How to solve problems by applying Pythagoras' theorem and trigonometry
4. How to rotate, translate, reflect and enlarge shapes
5. How to fully describe a transformation of a shape