

Lode Heath School

Mathematics Department

Year 10 Higher Summer Term

Assignment Title	Unit 6: More trigonometry	Set	Summer
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Summary of Unit 6	Key Words		
Use and understand the trigonometric graphs. Use the sine and cosine functions to solve problems. Use the sine rule to find the area of triangles.	Axes, coordinates, sine, cosine, tan, angle, graph, transformations, side, angle, inverse, square root, 2D, 3D, diagonal, plane, cuboid.		
Prior Knowledge:			



3) A ladder is placed so that it makes an angle of 76° with the ground. The foot of the ladder is 1.7m from the foot of the wall. How high up the wall does the ladder reach?

Leve	Task Description
6-8	6.1 Accuracy
	Understand and use upper and lower bounds in calculations involving trigonometry.
6-8	6.2 Graph of the sine function
	Understand how to find the sine of any angle.
	Know the graph of the sine function and use it to solve equations.
6-8	6.3 Graph of the cosine function
	Understand how to find the cosine of any angle.
	Know the graph of the cosine function and use it to solve equations.
6-8	6.4 The tangent function
	Understand how to find the tangent of any angle.
	Know the graph of the tangent function and use it to solve equations.
6-8	6.5 Calculating areas and the sine rule
	Find the area of a triangle and a segment of a circle.
	Use the sine rule to solve 2D problems.
6-8	6.6 The cosine rule and 2D trigonometric problems
	Use the cosine rule to solve 2D problems.
	Solve bearings problems using trigonometry.
8-9	6.7 Solving problems in 3D
	Use Pythagoras' theorem in 3D.
	Use trigonometry in 3D.
7-8	6.8 Transforming trigonometric graphs 1
	Recognise how changes in a function affect trigonometric graphs.

LEARNING JOURNEY

Assignment Title Unit 7: Further statistics	Set	Summer
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Summary of Unit 7	Key Words	
	Sample, population, fraction, decimal, percentage, bias,	
Work with data to produce and interpret cumulative frequency	stratified sample, random, cumulative frequency, box plot,	
graphs, box plots and histograms.	histogram, frequency density, frequency, mean, median,	
	mode, range, lower quartile, upper quartile, interquartile	
	range, spread, comparison, outlier.	
Prior Knowledge:		

1) What is the difference between discrete and continuous data? Give examples of each.

2) What numbers are represented in these inequalities?

3) Calculate the following:

a)
$$\frac{2}{3} \times 4$$
 b) $\frac{7}{8} \times 3$ c) $\frac{5}{9} \times 6$

LEARNING JOURNEY

Leve	Task Description	
4-6	7.1 Sampling	
	Understand how to take a simple random sample.	
	Understand how to take a stratified sample.	
6-7	7.2 Cumulative frequency	
	Draw and interpret cumulative frequency tables and diagrams.	
	Work out the median, quartiles and interquartile range from a cumulative frequency diagram.	
6-7	7.3 Box plots	
	Find the quartiles and the interquartile range from stem-and-leaf diagrams.	
	Draw and interpret box plots.	
6-7	7.4 Drawing histograms	
	Understand frequency density.	
	Draw histograms.	
6-8	7.5 Interpreting histograms	
	Interpret histograms.	
5-7	7.6 Comparing and describing populations	
	Compare two sets of data.	