

## Mathematics Assignment 3

Watch the video, complete, and mark the questions using the links below.

Grade 6+ topics		
Questions	Tutorial	Answers
<a href="#">104. Sine, Cosine Rule and Area of Tri</a>	<a href="#">Video</a>	<a href="#">Answers</a>
<a href="#">105. 3D Pythagoras</a>	<a href="#">Video</a>	<a href="#">Answers</a>
<a href="#">106. Spheres and Cones</a>	<a href="#">Video</a>	<a href="#">Answers</a>
<a href="#">108. Vectors</a>	<a href="#">Video</a>	<a href="#">Answers</a>
<a href="#">110. Stratified Sampling</a>	<a href="#">Video</a>	<a href="#">Answers</a>
<a href="#">111. Algebraic Proof</a>	<a href="#">Video</a>	<a href="#">Answers</a>

You might like to work on Questions at a particular Grade.

Aiming for a Grade 5 [Questions](#) [Answers](#)

Aiming for a Grade 7 [Questions](#) [Answers](#)

Aiming for a Grade 9 [Questions](#) [Answers](#)

The following is a list of other topics you would benefit from revising, but may not necessarily be in the assessment test.

### Number and algebra

- Rounding, decimal approximations and significant figures, including appreciation of errors
- Use of addition, subtraction, multiplication and division using integers, decimals and fractions, including order of operations
- Prime numbers, factors (divisors) and multiples
- Greatest common factor (divisor) and least common multiples (HL IB only)
- Simple applications of ratio, percentage and proportion
- Calculating the numerical value of expressions by substitution
- Familiarity with commonly accepted world currencies

### Geometry and trigonometry

- Geometric concepts: point, line, plane, angle
- Angle measurement in degrees, compass directions
- Simple geometric transformations: translation, reflection, rotation, enlargement
- The circle, its centre and radius, area and circumference. The terms diameter, arc, sector, chord, tangent and segment
- Perimeter and area of plane figures. Properties of triangles and quadrilaterals, including parallelograms, rhombuses, rectangles, squares, kites and trapezoids;

compound shapes

- Familiarity with three-dimensional shapes (prisms, pyramids, spheres, cylinders and cones)
- Volumes and surface areas of cuboids, prisms, cylinders, and compound 3-d shapes

Statistics and probability

- The collection of data and its representation in bar charts, pie charts, pictograms, line graphs
- Obtaining simple statistics from discrete data, including mean, median, mode, range
- Calculating probabilities of simple events
- Venn diagrams for sorting data
- Tree diagrams

Calculus

- $\text{Speed} = \text{distance}/\text{time}$