

Summary

SL - Trigonometry and Volume Draft

Subject	Year	Start date	Duration
Mathematics: applications and interpretation	IB2	Week 1, September	3 weeks

Course Part

Inquiry & Purpose

? Inquiry / Higher Order Questions

Type	Inquiry Questions
Skills-based	What is the relationship between the sine rule and the sine ratio in a right triangle?
Skills-based	How is the area of sector formula derived?

Curriculum

⊕ Aims

Communicate mathematics clearly, concisely and confidently in a variety of contexts

◇ Objectives

Knowledge and understanding: Recall, select and use their knowledge of mathematical facts, concepts and techniques in a variety of familiar and unfamiliar contexts.

📖 Syllabus Content

Topic 3: Geometry and trigonometry

SL Content

SL 3.1

The distance between two points in three- dimensional space, and their midpoint.

Volume and surface area of three-dimensional solids including right-pyramid, right cone, sphere, hemisphere and combinations of these solids.

The size of an angle between two intersecting lines or between a line and a plane.

SL 3.2

Use of sine, cosine and tangent ratios to find the sides and angles of right-angled triangles.

The sine rule: $\frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}$

The cosine rule: $c^2 = a^2 + b^2 - 2ab \cos C$

$$\cos C = \frac{a^2 + b^2 - c^2}{2ab}$$

Area of a triangle as $\frac{1}{2}ab \sin C$

SL 3.3

Applications of right and non-right angled trigonometry, including Pythagoras' theorem.

Angles of elevation and depression.

Construction of labelled diagrams from written statements.

ATL Skills

Approaches to Learning



Thinking

- In this unit, we will

give students time to think through their answers before asking them for a response

Developing IB Learners

Learner Profile



Inquirers



Knowledgeable



Thinkers