

IB DP IB Mathematics Analysis and approaches SL (IB2)



Summary

SL - Chapter 13 - Further Calculus

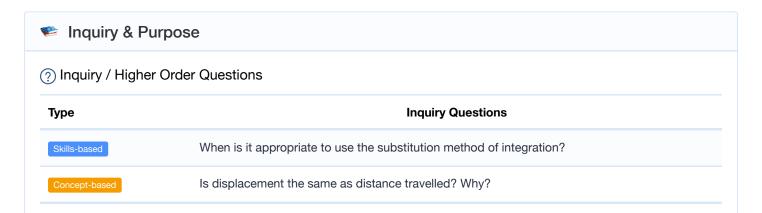
Start date Duration Subject Year Mathematics: analysis and Week 3, October IB2 4 weeks

approaches

Course Part

Description

In this unit you will explore the derivatives of sine and cosine functions, applications of derivatives and kinematics



Curriculum

Aims

Develop a curiosity and enjoyment of mathematics, and appreciate its elegance and power

Objectives

Problem solving: Recall, select and use their knowledge of mathematical skills, results and models in both abstract and real-world contexts to solve problems.

Syllabus Content

Topic 5: Calculus

SL Content

SL 5.6

Derivative of $x^n (n \in \mathbb{Q}), \sin x, \cos x, \mathrm{e}^x$ and $\ln x$

Differentiation of a sum and a multiple of these functions.

SL 5.9

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Kinematic problems involving displacement s, velocity v, acceleration a and total distance travelled.

SL 5.10

Indefinite integral of $x^n (n \in \mathbb{Q}), \sin x, \cos x, \frac{1}{x}$ and e^x

The composites of any of these with the linear function ax + b.

Integration by inspection (reverse chain rule) or by substitution for expressions of the form: $\int kg'(x)f(g(x))\mathrm{d}x$



ATL Skills



Approaches to Learning



Thinking

- In this unit, we will

reward a new personal understanding, solution or approach to an issue

set students a task which required higher-order thinking skills (such as analysis or evaluation)

help students to make their thinking more visible (for example, by using a strategy such as a thinking routine)

ask questions that required the use of knowledge from a different subject from the one you are teaching



Developing IB Learners



☆ Learner Profile



Inquirers



Knowledgeable



Thinkers



Reflective