

Learning Brief

Goals

By the end of this week, you should be able to:

- Integrate various functions by recognition, various rules and by substitution
- Integrate various functions using CAS
- Understand and use integration notation

$$\frac{d}{dx} \left[\text{cheese} \right] = \text{cheese}$$

$$\int \text{milk} \, dx = \text{cow}$$

Theoretical Components

Mathspace lessons:
Anti-Derivatives
Anti-Differentiation

<https://www.youtube.com/watch?v=RA9hcWcwz4>

$f(x)$	$\int f(x) \, dx$
a	$ax + c$
ax^n	$\frac{ax^{n+1}}{n+1} + c$
$(ax + b)^n$	$\frac{(ax + b)^{n+1}}{a(n+1)} + c$
$\frac{1}{x}$	$\log_e x + c$
$\frac{1}{ax + b}$	$\frac{1}{a} \log ax + b + c$
e^x	$e^x + c$
e^{kx}	$\frac{1}{k} e^{kx} + c$
$\sin(ax)$	$-\frac{1}{a} \cos(ax) + c$
$\cos(ax)$	$\frac{1}{a} \sin(ax) + c$

Practical Components

Mathspace tasks

Make sure that you read the lessons and the examples before you start the tasks.

Exercises 9A and 9B on Google classroom

Mathspace lessons.

The Curriculum is *Specialist Methods 12*

Topics are *Integration*

Look at the Sub-topics

Notation for Anti-derivative

Antidifferentiation

Investigation

On HawkerMaths later this week

Quiz

None