The derivative (9A)

Thursday, 8 March 2018 6:50 pm





BL.T. Question 10 (7 marks) Let $f: [0, \infty) \to R$, $f(x) = 2e^{-\frac{x}{3}}$. A right-angled triangle OQP has vertex Q at the origin, vertex Q on the x-axis and vertex P on the graph of f, as shown. The coordinates of P are (x, f(x)). FG) $A = \frac{1}{2} \times b \times H$ $A = \frac{1}{2} \times \pi \times$ y = f(x)(x. 2e xx x 2 e s P(x, f(x))

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VCAA 2013 Paper 1 1 mark

Back to the subject at hand :)

Differentiation from First Principles

0

a. Find the area, A, of the triangle OQP in terms of x.

Example where this was used in a VCAA exam and it caused absolute havoc!

This DESMOS graph does it brilliantly

Differentiation from First Principles







-Using the Casio ClassPad	
In $\sqrt{\alpha}$, enter and highlight the expression	
$\frac{3x^2h+2h^2}{h}$	$\lim_{h \to 0} \left(\frac{3x^2h + 2h^2}{h} \right)$
Note: Use h from the Var keyboard.	3•x ²
 Select I from the Math2 keyboard and tap (EXE). Enter h and 0 in the spaces provided as shown. 	

Derivative of a function

The derivative of a function can be defined as:

