

Differentiation (Power Rule)

Revise this topic →



← Check your work

This booklet features original exam style questions designed by me. They do not feature in past papers but are good practice for your exams.

The content is designed to reflect the style of the **AQA Level 2 Certificate in Further Maths**. It may not be suitable for other courses.



Answer **all** questions in the spaces provided.

1 $y = 2x^3 + 3x^2 + 4x + 1$

Work out $\frac{dy}{dx}$

[2 marks]

$\frac{dy}{dx} =$ _____

2 $y = 5x^4 - x^2 + x - 4$

Work out $\frac{dy}{dx}$

[2 marks]





Do not write
outside the
box

3 $y = 20 - 4x^2 + \frac{x}{4}$

Work out $\frac{dy}{dx}$

[2 marks]

$\frac{dy}{dx} =$ _____

4 $y = \frac{2}{x^3} - \frac{3}{x}$

Work out an expression for the rate of change of y with respect to x

[3 marks]

Answer _____

Turn over ►



5 $y = (2x + 1)(x - 3)$

Work out $\frac{dy}{dx}$

[3 marks]

$\frac{dy}{dx} =$ _____

6 $y = x^2(2x^2 - 3)$

Work out an expression for the rate of change of y with respect to x

[3 marks]

Answer _____





Do not write
outside the
box

7 $y = \frac{3x + 5x^2}{x^2}$

Work out $\frac{dy}{dx}$

[3 marks]

$\frac{dy}{dx} =$ _____

8 $y = \frac{6 + 8x^3 - x^2}{x^3}$

Work out $\frac{dy}{dx}$

[4 marks]

$\frac{dy}{dx} =$ _____

Turn over ►





Do not write
outside the
box

9 $y = (x + 1)(x + 2)(x + 3)$

Work out $\frac{dy}{dx}$

[4 marks]

$$\frac{dy}{dx} = \underline{\hspace{10cm}}$$

10 $y = 5 - \frac{x^3 + 8}{4x^2}$

Work out $\frac{dy}{dx}$

[4 marks]

$$\frac{dy}{dx} = \underline{\hspace{10cm}}$$

$\frac{\quad}{8}$

