

Differentiating Multiple Terms

Example

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

Questions

1. $y = 2x^2 - 3x$

2. $y = 4 - 9x^3$

3. $y = 5x + 1$

4. $y = ax$ (a is a constant)

5. $y = 6x - 3 + px^2$ (p is a constant)

Harder Example

Let $f(x) = 4x^2 - 8x + 3$

- Find the gradient of $y = f(x)$ at the point $\left(\frac{1}{2}, 0\right)$
- Find the coordinates of the point on the graph of $y = f(x)$ where the gradient is 8.
- Find the gradient of $y = f(x)$ at the points where the curve meets the line $y = 4x - 5$.

Test Your Understanding

Let $f(x) = x^2 - 4x + 2$

- Find the gradient of $y = f(x)$ at the point $(1, -1)$
- Find the coordinates of the point on the graph of $y = f(x)$ where the gradient is 5.
- Find the gradient of $y = f(x)$ at the points where the curve meets the line $y = 2 - x$.