

Differentiation Practice 2

Find the gradient of each curve at the point with the given x co-ordinate.

Write x^n as x^n .

1. $y = 3x^3 + 2x^2$ at $x = 3$

Gradient function =

Gradient at $x = 3$ is

2. $y = -2x^4 + 3x^2$ at $x = -2$

Gradient function =

Gradient at $x = -2$ is

3. $y = 3x^4 + 6x^3 - 3x^2$ at $x = -1$

Gradient function =

Gradient at $x = -1$ is

Find the first derivative $f'(x)$ for the following.

1. $f(x) = x^3(x^2 + 2x)$

$f'(x) =$

2. $f(x) = (4x + 1)(3x + 5)$

$f'(x) =$

3. $f(x) = (x + 3)^2$

$f'(x) =$

4. $f(x) = (2x - 7)(3x + 4)$

$f'(x) =$

5. $f(x) = 5(x-3)(x+7)$

$f'(x) =$