



Derivative Rules - Sum Rule Positive Powers to Derivative

1 Find the derivative $f'(x)$ using the sum rule.

$$f(x) = 4x^3 - 2x^2 - 3x$$

A $f'(x) = 12x^2 - 4x - 3$

B $f'(x) = 4x^2 - 2x - 3$

C $f'(x) = 12x^3 - 4x^2 - 3x$

2 Find the derivative $f'(x)$ using the sum rule.

$$f(x) = 3x^4 - 4x^2 - 5$$

A $f'(x) = 3x^3 - 4x$

B $f'(x) = 12x^3 - 8x - 5$

C $f'(x) = 12x^4 - 8x^2$

D $f'(x) = 12x^3 - 8x$

3 Find the derivative $f'(x)$ using the sum rule.

$$f(x) = -3x^4 + 3x^3 + 5x^2$$

A $f'(x) = -12x^3 + 9x^2 + 10x$

B $f'(x) = -3x^3 + 3x^2 + 5x$

C $f'(x) = -12x^4 + 9x^3 + 10x^2$

4 Find the derivative $f'(x)$ using the sum rule.

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

A $f'(x) = -4x + 4$

B $f'(x) = -2x + 4$

C $f'(x) = -4x + 4 - 2$

D $f'(x) = -4x^2 + 4x$

5 Find the derivative $f'(x)$ using the sum rule.

$$f(x) = -5x^2 + 2x^3 - 3x$$

A $f'(x) = -5x + 2x^2 - 3$

B $f'(x) = -10x^2 + 6x^3 - 3x$

C $f'(x) = -10x + 6x^2 - 3$

6 Find the derivative $f'(x)$ using the sum rule.

$$f(x) = 5x^2 - 2x^3 - 4x$$

A $f'(x) = 5x - 2x^2 - 4$

B $f'(x) = 10x^2 - 6x^3 - 4x$

C $f'(x) = 10x - 6x^2 - 4$

7 Find the derivative $f'(x)$ using the sum rule.

$$f(x) = 3x^3 + 4x^2 + 5$$

A $f'(x) = 9x^2 + 8x + 5$

B $f'(x) = 9x^3 + 8x^2$

C $f'(x) = 9x^2 + 8x$

D $f'(x) = 3x^2 + 4x$

8 Find the derivative $f'(x)$ using the sum rule.

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

A $f'(x) = 12x^3 + 4 - 6x^2$

B $f'(x) = 12x^4 + 4x - 6x^3$

C $f'(x) = 3x^3 + 4 - 2x^2$