



Derivative Rules - Sum Rule Positive Powers (with Rule) to Derivative

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

$$\text{if } h(x) = f(x) + g(x), h'(x) = f'(x) + g'(x)$$

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

A $f'(x) = -6x + 4$

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

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

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

$$\text{if } h(x) = f(x) + g(x), h'(x) = f'(x) + g'(x)$$

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

A $f'(x) = 2x^2 + 4$

B $f'(x) = 6x^2 + 4$

C $f'(x) = 6x^3 + 4x$

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

$$\text{if } h(x) = f(x) + g(x), h'(x) = f'(x) + g'(x)$$

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

A $f'(x) = -6x^2 + 5 - 2$

B $f'(x) = -6x^2 + 5$

C $f'(x) = -6x^3 + 5x$

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

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

$$\text{if } h(x) = f(x) + g(x), h'(x) = f'(x) + g'(x)$$

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

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

B $f'(x) = 8x^4 + 4x$

C $f'(x) = 8x^3 + 4 + 4$

D $f'(x) = 8x^3 + 4$

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

$$\text{if } h(x) = f(x) + g(x), h'(x) = f'(x) + g'(x)$$

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

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

B $f'(x) = 8x^3 - 15x^2 - 3$

C $f'(x) = 8x^4 - 15x^3 - 3x$

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

$$\text{if } h(x) = f(x) + g(x), h'(x) = f'(x) + g'(x)$$

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

A $f'(x) = 20x^4 - 2x$

B $f'(x) = 20x^3 - 2 - 2$

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

D $f'(x) = 20x^3 - 2$

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

$$\text{if } h(x) = f(x) + g(x), h'(x) = f'(x) + g'(x)$$

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

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

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

C $f'(x) = -9x^3 + 3x$

D $f'(x) = -9x^2 + 3 - 5$

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

$$\text{if } h(x) = f(x) + g(x), h'(x) = f'(x) + g'(x)$$

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

A $f'(x) = 12x^4 + 5x$

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

C $f'(x) = 12x^3 + 5 - 2$

D $f'(x) = 3x^3 + 5$