



# Derivative Rules - Sum Rule Negative Powers as Division to Derivative

1 Find the derivative  $f'(x)$  using the sum rule.  $f(x) = -\frac{3}{x^2} + 5x^3$

A  $f'(x) = -3x^{-3} + 5x^2$  B  $f'(x) = 6x^{-2} + 15x^3$

C  $f'(x) = 6x^{-3} + 15x^2$

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

$$f(x) = -\frac{4}{x^2} - 4$$

A  $f'(x) = 8x^{-3}$

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

C  $f'(x) = 8x^{-2}$

D  $f'(x) = 8x^{-3} - 4$

3 Find the derivative  $f'(x)$  using the sum rule.  $f(x) = \frac{2}{x^3} + 4x^3 - 3x$

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

C  $f'(x) = -6x^{-4} + 12x^2 - 3$

4 Find the derivative  $f'(x)$  using the sum rule.  $f(x) = \frac{2}{x^2} + 4x$

A  $f'(x) = -4x^{-2} + 4x$  B  $f'(x) = 2x^{-3} + 4$

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

5 Find the derivative  $f'(x)$  using the sum rule.  $f(x) = -\frac{4}{x^3} - 4$

A  $f'(x) = 12x^{-3}$  B  $f'(x) = -4x^{-4}$

C  $f'(x) = 12x^{-4}$  D  $f'(x) = 12x^{-4} - 4$

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

$$f(x) = -\frac{2}{x^2} - 3$$

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

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

C  $f'(x) = 4x^{-3} - 3$

D  $f'(x) = 4x^{-3}$

7 Find the derivative  $f'(x)$  using the sum rule.  $f(x) = \frac{3}{x^3} - 5x - 5x^3$

A  $f'(x) = -9x^{-4} - 5 - 15x^2$  B  $f'(x) = 3x^{-4} - 5 - 5x^2$

C  $f'(x) = -9x^{-3} - 5x - 15x^3$

8 Find the derivative  $f'(x)$  using the sum rule.  $f(x) = \frac{3}{x^3} - 5 + 4x$

A  $f'(x) = -9x^{-4} + 4$  B  $f'(x) = 3x^{-4} + 4$

C  $f'(x) = -9x^{-3} + 4x$  D  $f'(x) = -9x^{-4} + 4 - 5$