



Derivative Rules - Sum Rule Negative Fractional Powers (with Rule) to

Derivative

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

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

$$f(x) = -2x^{-\frac{1}{3}} - 3$$

A $f'(x) = \frac{2}{3}x^{-\frac{4}{3}}$

B $f'(x) = \frac{2}{3}x^{-\frac{4}{3}} - 3$

C $f'(x) = -2x^{-\frac{4}{3}}$

D $f'(x) = \frac{2}{3}x^{-\frac{1}{3}}$

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

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

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

A $f'(x) = -3x^{-\frac{5}{2}} + 2$

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

C $f'(x) = 2x^{-\frac{5}{2}} + 2$

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

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

$$f(x) = -5x^{-\frac{3}{2}} - 4x + 2x^2$$

A $f'(x) = -5x^{-\frac{5}{2}} - 4 + 2x$

B $f'(x) = \frac{15}{2}x^{-\frac{5}{2}} - 4 + 4x$

C $f'(x) = \frac{15}{2}x^{-\frac{3}{2}} - 4x + 4x^2$

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

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

$$f(x) = 5x^{-\frac{1}{3}} + 4$$

A $f'(x) = -\frac{5}{3}x^{-\frac{4}{3}}$

B $f'(x) = -\frac{5}{3}x^{-\frac{4}{3}} + 4$

C $f'(x) = 5x^{-\frac{4}{3}}$

D $f'(x) = -\frac{5}{3}x^{-\frac{1}{3}}$

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

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

$$f(x) = 3x^{-\frac{3}{2}} + 5 - 3x^2$$

A $f'(x) = -\frac{9}{2}x^{-\frac{5}{2}} - 6x^2$

B $f'(x) = -\frac{9}{2}x^{-\frac{5}{2}} - 6x$

C $f'(x) = 3x^{-\frac{5}{2}} - 3x$

D $f'(x) = -\frac{9}{2}x^{-\frac{5}{2}} - 6x + 5$

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

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

$$f(x) = -2x^{-\frac{1}{2}} - 3 + 3x^3$$

A $f'(x) = x^{-\frac{1}{2}} + 9x^3$

B $f'(x) = x^{-\frac{3}{2}} + 9x^2 - 3$

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

D $f'(x) = x^{-\frac{3}{2}} + 9x^2$

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

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

$$f(x) = -4x^{-\frac{2}{3}} + 5$$

A $f'(x) = \frac{8}{3}x^{-\frac{5}{3}} + 5$

B $f'(x) = \frac{8}{3}x^{-\frac{2}{3}}$

C $f'(x) = -4x^{-\frac{5}{3}}$

D $f'(x) = \frac{8}{3}x^{-\frac{5}{3}}$

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

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

$$f(x) = 2x^{-\frac{3}{2}} - 4x^2 - 5x^3$$

A $f'(x) = -3x^{-\frac{5}{2}} - 8x - 15x^2$

B $f'(x) = 2x^{-\frac{5}{2}} - 4x - 5x^2$

C $f'(x) = -3x^{-\frac{3}{2}} - 8x^2 - 15x^3$