



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

Derivative

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

if $h(x) = f(x) + g(x)$, $h'(x) = f'(x) + g'(x)$
 $f(x) = -2x^{\frac{4}{3}} + 3x^2$

A $f'(x) = -\frac{8}{3}x^{\frac{1}{3}} + 6x^2$

B $f'(x) = -\frac{8}{3}x^{\frac{1}{3}} + 6x$

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

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

if $h(x) = f(x) + g(x)$, $h'(x) = f'(x) + g'(x)$
 $f(x) = 3x^{\frac{4}{3}} - 4x^3 - 5$

A $f'(x) = 4x^{\frac{1}{3}} - 12x^2$

B $f'(x) = 4x^{\frac{1}{3}} - 12x^2 - 5$

C $f'(x) = 3x^{\frac{1}{3}} - 4x^2$

D $f'(x) = 4x^{\frac{4}{3}} - 12x^3$

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

if $h(x) = f(x) + g(x)$, $h'(x) = f'(x) + g'(x)$
 $f(x) = 3x^{\frac{3}{2}} - 2x^2$

A $f'(x) = \frac{9}{2}x^{\frac{1}{2}} - 4x$

B $f'(x) = \frac{9}{2}x^{\frac{3}{2}} - 4x^2$

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

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

if $h(x) = f(x) + g(x)$, $h'(x) = f'(x) + g'(x)$
 $f(x) = -5x^{\frac{1}{3}} - 2 - 4x^3$

A $f'(x) = -\frac{5}{3}x^{-\frac{2}{3}} - 12x^2 - 2$

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

C $f'(x) = -\frac{5}{3}x^{\frac{1}{3}} - 12x^3$

D $f'(x) = -\frac{5}{3}x^{-\frac{2}{3}} - 12x^2$

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

if $h(x) = f(x) + g(x)$, $h'(x) = f'(x) + g'(x)$
 $f(x) = 5x^{\frac{3}{2}} - 3 + 2x^3$

A $f'(x) = \frac{15}{2}x^{\frac{1}{2}} + 6x^3$

B $f'(x) = 5x^{\frac{1}{2}} + 2x^2$

C $f'(x) = \frac{15}{2}x^{\frac{1}{2}} + 6x^2 - 3$

D $f'(x) = \frac{15}{2}x^{\frac{1}{2}} + 6x^2$

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

if $h(x) = f(x) + g(x)$, $h'(x) = f'(x) + g'(x)$
 $f(x) = -3x^{\frac{3}{2}} + 3x^2$

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

B $f'(x) = -\frac{9}{2}x^{\frac{3}{2}} + 6x^2$

C $f'(x) = -\frac{9}{2}x^{\frac{1}{2}} + 6x$

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

if $h(x) = f(x) + g(x)$, $h'(x) = f'(x) + g'(x)$
 $f(x) = 4x^{\frac{2}{3}} - 4x$

A $f'(x) = \frac{8}{3}x^{-\frac{1}{3}} - 4$

B $f'(x) = \frac{8}{3}x^{\frac{2}{3}} - 4x$

C $f'(x) = 4x^{-\frac{1}{3}} - 4$

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

if $h(x) = f(x) + g(x)$, $h'(x) = f'(x) + g'(x)$
 $f(x) = 4x^{\frac{3}{2}} - 3 - 5x^2$

A $f'(x) = 4x^{\frac{1}{2}} - 5x$

B $f'(x) = 6x^{\frac{1}{2}} - 10x - 3$

C $f'(x) = 6x^{\frac{1}{2}} - 10x$

D $f'(x) = 6x^{\frac{3}{2}} - 10x^2$