Name

Derivative Rules - Product Rule Negative Fractional Powers as Radical (with Rule) to Derivative

1 if $h(x) = f(x)\,g(x),\ h'(x) = f'(x)\,g(x) + f(x)\,g'(x)$
$f(x) = (-\frac{3}{\sqrt[3]{x^2}} + 2)(5x^2 - 7)$

Find the derivative f'(x) using the product rule.

A	B	C	D
$f'(x) = (2x^{-\frac{5}{3}})(5x^2 - 7)$	$f'(x) = (2x^{-\frac{5}{3}})(10x)$	$f(x) = (2x^{-\frac{1}{3}})(5x^2 - 7) - (-3x^{-\frac{1}{2}} + 2)(10x)$	$f(x) = (2x^{-\frac{1}{3}})(5x^2 - 7) + (-3x^{-\frac{1}{2}} + 2)(10x)$

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

Find the derivative f'(x) using the product rule.

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

3 if $h(x) = f(x)\,g(x),\ h'(x) = f'(x)\,g(x) + f(x)\,g'(x)$
$f(x) = (\frac{5}{\sqrt{x^3}} - 7)(-5x)$

Find the derivative f'(x) using the product rule.

A	B	C	D
$f'(x) = (-\frac{15}{2}x^{-\frac{5}{2}})(-5x)$	$f(x) = (-\frac{15}{2}x^{-\frac{5}{2}})(-5x) - (5x^{-\frac{3}{2}} - 7)(-5)$	$f(x) = (-\frac{15}{2}x^{-\frac{3}{2}})(-5x) + (5x^{-\frac{3}{2}} - 7)(-5)$	$f'(x) = (-\frac{15}{2}x^{-\frac{5}{2}})(-5)$

4 if $h(x) = f(x)\,g(x),\ h'(x) = f'(x)\,g(x) + f(x)\,g'(x)$
$f(x) = (\frac{3}{\sqrt{x}} + 6)(2x^2)$

Find the derivative f'(x) using the product rule.

A	B	C	D
$f(x) = (-\frac{3}{2}x^{-\frac{1}{2}})(2x^2) + (3x^{-\frac{1}{2}} + 6)(4x)$	$f'(x) = (-\frac{3}{2}x^{-\frac{3}{2}})(4x)$	$f'(x) = (-\frac{3}{2}x^{-\frac{3}{2}})(2x^2)$	$f(x) = (-\frac{3}{2}x^{-\frac{1}{2}})(2x^2) - (3x^{-\frac{1}{2}} + 6)(4x)$

5 if $h(x) = f(x)\,g(x),\ h'(x) = f'(x)\,g(x) + f(x)\,g'(x)$
$f(x) = (-\frac{5}{\sqrt{x^3}} - 2)(-5x^2 - 7)$

Find the derivative f'(x) using the product rule.

A	B	C	D
$f'(x) = (\frac{15}{2}x^{-\frac{5}{2}})(-5x^2 - 7)$	$f(x) = (\frac{15}{2}x^{-\frac{1}{2}})(-5x^2 - 7) + (-5x^{-\frac{3}{2}} - 2)(-10x)$	$f(x) = (\frac{15}{2}x^{-\frac{1}{2}})(-5x^2 - 7) - (-5x^{-\frac{3}{2}} - 2)(-10x)$	$f'(x) = (\frac{15}{2}x^{-\frac{5}{2}})(-10x)$

6 if $h(x) = f(x)\,g(x),\ h'(x) = f'(x)\,g(x) + f(x)\,g'(x)$
$f(x) = (-\frac{3}{\sqrt{x^3}} - 2)(2x + 7)$

Find the derivative f'(x) using the product rule.

A	B	C	D
$f(x) = (\frac{9}{2}x^{-\frac{1}{2}})(2x + 7) + (-3x^{-\frac{1}{2}} - 2)(2)$	$f'(x) = (\frac{9}{2}x^{-\frac{5}{2}})(2)$	$f(x) = (\frac{9}{2}x^{-\frac{1}{2}})(2x + 7) - (-3x^{-\frac{1}{2}} - 2)(2)$	$f'(x) = (\frac{9}{2}x^{-\frac{5}{2}})(2x + 7)$

7 if $h(x) = f(x)\,g(x),\ h'(x) = f'(x)\,g(x) + f(x)\,g'(x)$
$f(x) = (-\frac{3}{\sqrt[3]{x}} - 5)(-4x - 7)$

Find the derivative f'(x) using the product rule.

A	B	C	D
$f(x) = (x^{-\frac{1}{3}})(-4x - 7) - (-3x^{-\frac{1}{3}} - 5)(-4)$	$f(x) = (x^{-\frac{1}{3}})(-4x - 7) + (-3x^{-\frac{1}{3}} - 5)(-4)$	$f'(x) = (x^{-\frac{4}{3}})(-4x - 7)$	$f'(x) = (x^{-\frac{4}{3}})(-4)$

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

Find the derivative f'(x) using the product rule.

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