



Derivative Rules - Chain Rule Negative Fractional Powers as Radical to Derivative

1 Find the derivative $f'(x)$ using the chain rule. $f(x) = \frac{1}{\sqrt[3]{(-2x-2)^2}}$		2 Find the derivative $f'(x)$ using the chain rule. $f(x) = \frac{1}{\sqrt{(-x+4)}}$	
A $f'(x) = \frac{4}{3}(-2x-2)^{-\frac{5}{3}}$	B $f'(x) = \frac{4}{3}(-2x-2)^{-\frac{2}{3}}$	A $f'(x) = -(-x+4)^{-\frac{3}{2}}$	B $f'(x) = \frac{1}{2}(-x+4)^{-\frac{1}{2}}$
C $f'(x) = -\frac{2}{3}(-2x-2)^{-\frac{5}{3}}$	D $f'(x) = -2(-2x-2)^{-\frac{5}{3}}$	C $f'(x) = \frac{1}{2}(-x+4)^{-\frac{3}{2}}$	D $f'(x) = -\frac{1}{2}(-x+4)^{-\frac{3}{2}}$
3 Find the derivative $f'(x)$ using the chain rule. $f(x) = \frac{1}{\sqrt{(2x-6)^3}}$		4 Find the derivative $f'(x)$ using the chain rule. $f(x) = \frac{1}{\sqrt{(-3x^2-4)}}$	
A $f'(x) = 2(2x-6)^{-\frac{5}{2}}$	B $f'(x) = -3(2x-6)^{-\frac{5}{2}}$	A $f'(x) = -\frac{1}{2}(-3x^2-4)^{-\frac{3}{2}}(-6x)$	B $f'(x) = (-3x^2-4)^{-\frac{3}{2}}(-6x)$
C $f'(x) = -\frac{3}{2}(2x-6)^{-\frac{5}{2}}$	D $f'(x) = -3(2x-6)^{-\frac{3}{2}}$	C $f'(x) = -\frac{1}{2}(-3x^2-4)^{-\frac{3}{2}}$	D $f'(x) = -\frac{1}{2}(-3x^2-4)^{-\frac{1}{2}}(-6x)$
5 Find the derivative $f'(x)$ using the chain rule. $f(x) = \frac{1}{\sqrt[3]{(2x-2)}}$		6 Find the derivative $f'(x)$ using the chain rule. $f(x) = \frac{1}{\sqrt[3]{(2x+6)}}$	
A $f'(x) = -\frac{1}{3}(2x-2)^{-\frac{4}{3}}$	B $f'(x) = 2(2x-2)^{-\frac{4}{3}}$	A $f'(x) = -\frac{2}{3}(2x+6)^{-\frac{1}{3}}$	B $f'(x) = 2(2x+6)^{-\frac{4}{3}}$
C $f'(x) = -\frac{2}{3}(2x-2)^{-\frac{1}{3}}$	D $f'(x) = -\frac{2}{3}(2x-2)^{-\frac{4}{3}}$	C $f'(x) = -\frac{1}{3}(2x+6)^{-\frac{4}{3}}$	D $f'(x) = -\frac{2}{3}(2x+6)^{-\frac{4}{3}}$
7 Find the derivative $f'(x)$ using the chain rule. $f(x) = \frac{1}{\sqrt{(-x^2-6)^3}}$		8 Find the derivative $f'(x)$ using the chain rule. $f(x) = \frac{1}{\sqrt[3]{(-3x+7)^2}}$	
A $f'(x) = (-x^2-6)^{-\frac{5}{2}}(-2x)$	B $f'(x) = -\frac{3}{2}(-x^2-6)^{-\frac{3}{2}}(-2x)$	A $f'(x) = -\frac{2}{3}(-3x+7)^{-\frac{5}{3}}$	B $f'(x) = -3(-3x+7)^{-\frac{5}{3}}$
C $f'(x) = -\frac{3}{2}(-x^2-6)^{-\frac{5}{2}}(-2x)$	D $f'(x) = -\frac{3}{2}(-x^2-6)^{-\frac{5}{2}}$	C $f'(x) = 2(-3x+7)^{-\frac{5}{3}}$	D $f'(x) = 2(-3x+7)^{-\frac{2}{3}}$