Name

Derivative Rules - Chain Rule Negative Powers as Division (with Rule) to Derivative

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

$$\text{if } y = f(g(x)),\ y' = f'(g(x)) \cdot g'(x)$$
$$f(x) = \frac{1}{(-3x+6)^2}$$

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

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

$$\text{if } y = f(g(x)),\ y' = f'(g(x)) \cdot g'(x)$$
$$f(x) = \frac{1}{(2x^2-4)^3}$$

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

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

$$\text{if } y = f(g(x)),\ y' = f'(g(x)) \cdot g'(x)$$
$$f(x) = \frac{1}{(-3x-7)^3}$$

A $f'(x) = 9(-3x-7)^{-4}$	B $f'(x) = -3(-3x-7)^{-4}$
C $f'(x) = 9(-3x-7)^{-3}$	

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

$$\text{if } y = f(g(x)),\ y' = f'(g(x)) \cdot g'(x)$$
$$f(x) = \frac{1}{(-3x^2-2)^3}$$

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

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

$$\text{if } y = f(g(x)),\ y' = f'(g(x)) \cdot g'(x)$$
$$f(x) = \frac{1}{(2x-2)^2}$$

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

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

$$\text{if } y = f(g(x)),\ y' = f'(g(x)) \cdot g'(x)$$
$$f(x) = \frac{1}{(x-6)^3}$$

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

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

$$\text{if } y = f(g(x)),\ y' = f'(g(x)) \cdot g'(x)$$
$$f(x) = \frac{1}{(-2x^2+3)^3}$$

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

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

$$\text{if } y = f(g(x)),\ y' = f'(g(x)) \cdot g'(x)$$
$$f(x) = \frac{1}{(-x-2)^2}$$

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