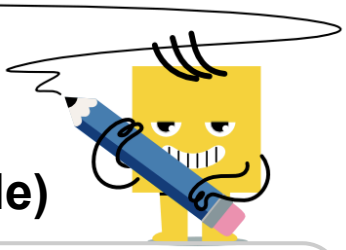
Name



Derivative Rules - Chain Rule Positive Fractional Powers as Radical (with Rule) to Derivative

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

$$\text{if } y = f(g(x)),\ y' = f'(g(x)) \cdot g'(x)$$
$$f(x) = \sqrt[3]{(2x-6)}$$

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

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

$$\text{if } y = f(g(x)),\ y' = f'(g(x)) \cdot g'(x)$$
$$f(x) = \sqrt[3]{(3x+6)^4}$$

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

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

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

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

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

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

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

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

$$\text{if } y = f(g(x)),\ y' = f'(g(x)) \cdot g'(x)$$
$$f(x) = \sqrt[3]{(-x+7)}$$

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

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

$$\text{if } y = f(g(x)),\ y' = f'(g(x)) \cdot g'(x)$$
$$f(x) = \sqrt[3]{(2x^2-6)^4}$$

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

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

$$\text{if } y = f(g(x)),\ y' = f'(g(x)) \cdot g'(x)$$
$$f(x) = \sqrt{(-2x+5)^3}$$

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

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

$$\text{if } y = f(g(x)),\ y' = f'(g(x)) \cdot g'(x)$$
$$f(x) = \sqrt[3]{(2x+4)^2}$$

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

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