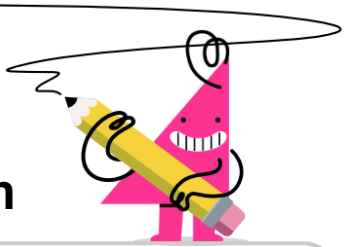
Name



Basic Derivatives - Positive Fractional Power with Coefficient as Radical (with Rule) to Derivative

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

$$\text{if } f(x) = a\,x^n,\ f'(x) = a\,n\,x^{n-1}$$
$$f(x) = -4\sqrt[3]{x^2}$$

A	$f'(x) = -\frac{8}{3}x^{\frac{2}{3}}$	B	$f'(x) = -\frac{8}{3}x^{\frac{5}{3}}$
C	$f'(x) = -4x^{-\frac{1}{3}}$	D	$f'(x) = -\frac{8}{3}x^{-\frac{1}{3}}$

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

$$\text{if } f(x) = a\,x^n,\ f'(x) = a\,n\,x^{n-1}$$
$$f(x) = -7\sqrt{x^3}$$

A	$f'(x) = -\frac{21}{2}x^{\frac{5}{2}}$	B	$f'(x) = -7x^{\frac{1}{2}}$
C	$f'(x) = -\frac{21}{2}x^{\frac{1}{2}}$	D	$f'(x) = -\frac{21}{2}x^{\frac{3}{2}}$

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

$$\text{if } f(x) = a\,x^n,\ f'(x) = a\,n\,x^{n-1}$$
$$f(x) = -8\sqrt[3]{x^4}$$

A	$f'(x) = -\frac{32}{3}x^{\frac{4}{3}}$	B	$f'(x) = -\frac{32}{3}x^{\frac{1}{3}}$
C	$f'(x) = -\frac{32}{3}x^{\frac{7}{3}}$	D	$f'(x) = -8x^{\frac{1}{3}}$

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

$$\text{if } f(x) = a\,x^n,\ f'(x) = a\,n\,x^{n-1}$$
$$f(x) = 3\sqrt[3]{x^5}$$

A	$f'(x) = 3x^{\frac{2}{3}}$	B	$f'(x) = 5x^{\frac{5}{3}}$
C	$f'(x) = 5x^{\frac{8}{3}}$	D	$f'(x) = 5x^{\frac{2}{3}}$

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

$$\text{if } f(x) = a\,x^n,\ f'(x) = a\,n\,x^{n-1}$$
$$f(x) = 9\sqrt[3]{x^5}$$

A	$f'(x) = 15x^{\frac{2}{3}}$	B	$f'(x) = 9x^{\frac{2}{3}}$
C	$f'(x) = 15x^{\frac{8}{3}}$	D	$f'(x) = 15x^{\frac{5}{3}}$

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

$$\text{if } f(x) = a\,x^n,\ f'(x) = a\,n\,x^{n-1}$$
$$f(x) = 9\sqrt{x^5}$$

A	$f'(x) = \frac{45}{2}x^{\frac{5}{2}}$	B	$f'(x) = \frac{45}{2}x^{\frac{3}{2}}$
C	$f'(x) = 9x^{\frac{3}{2}}$	D	$f'(x) = \frac{45}{2}x^{\frac{7}{2}}$

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

$$\text{if } f(x) = a\,x^n,\ f'(x) = a\,n\,x^{n-1}$$
$$f(x) = -4\sqrt[3]{x^5}$$

A	$f'(x) = -4x^{\frac{2}{3}}$	B	$f'(x) = -\frac{20}{3}x^{\frac{8}{3}}$
C	$f'(x) = -\frac{20}{3}x^{\frac{5}{3}}$	D	$f'(x) = -\frac{20}{3}x^{\frac{2}{3}}$

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

$$\text{if } f(x) = a\,x^n,\ f'(x) = a\,n\,x^{n-1}$$
$$f(x) = -9\sqrt[3]{x^2}$$

A	$f'(x) = -9x^{-\frac{1}{3}}$	B	$f'(x) = -6x^{-\frac{1}{3}}$
C	$f'(x) = -6x^{\frac{2}{3}}$	D	$f'(x) = -6x^{\frac{5}{3}}$