



Basic Derivatives - Positive Integer Power with Coefficient (with Rule) to

Derivative

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

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

$$f(x) = -4x^3$$

A $f'(x) = -12x^3$

B $f'(x) = -12x^4$

C $f'(x) = -12x^2$

D $f'(x) = -4x^2$

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

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

$$f(x) = 3x^6$$

A $f'(x) = 3x^5$

B $f'(x) = 18x^6$

C $f'(x) = 18x^5$

D $f'(x) = 18x^7$

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

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

$$f(x) = 8x^6$$

A $f'(x) = 48x^7$

B $f'(x) = 8x^5$

C $f'(x) = 48x^6$

D $f'(x) = 48x^5$

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

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

$$f(x) = -6x^6$$

A $f'(x) = -36x^7$

B $f'(x) = -36x^5$

C $f'(x) = -6x^5$

D $f'(x) = -36x^6$

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

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

$$f(x) = -9x^5$$

A $f'(x) = -9x^4$

B $f'(x) = -45x^5$

C $f'(x) = -45x^6$

D $f'(x) = -45x^4$

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

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

$$f(x) = 8x^5$$

A $f'(x) = 40x^4$

B $f'(x) = 8x^4$

C $f'(x) = 40x^6$

D $f'(x) = 40x^5$

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

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

$$f(x) = -3x^5$$

A $f'(x) = -15x^5$

B $f'(x) = -3x^4$

C $f'(x) = -15x^6$

D $f'(x) = -15x^4$

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

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

$$f(x) = -6x^2$$

A $f'(x) = -6x$

B $f'(x) = -12x$

C $f'(x) = -12x^3$

D $f'(x) = -12x^2$