



Basic Derivatives - Positive Fractional Power to Derivative

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

$$f(x) = x^{\frac{2}{3}}$$

A $f'(x) = \frac{2}{3}x^{\frac{2}{3}}$

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

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

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

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

$$f(x) = x^{\frac{1}{3}}$$

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

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

C $f'(x) = \frac{1}{3}x^{\frac{4}{3}}$

D $f'(x) = \frac{1}{3}x^{\frac{1}{3}}$

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

$$f(x) = x^{\frac{4}{3}}$$

A $f'(x) = \frac{4}{3}x^{\frac{1}{3}}$

B $f'(x) = x^{\frac{1}{3}}$

C $f'(x) = \frac{4}{3}x^{\frac{7}{3}}$

D $f'(x) = \frac{4}{3}x^{\frac{4}{3}}$

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

$$f(x) = x^{\frac{1}{2}}$$

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

B $f'(x) = \frac{1}{2}x^{\frac{1}{2}}$

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

D $f'(x) = \frac{1}{2}x^{-\frac{1}{2}}$

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

$$f(x) = x^{\frac{3}{2}}$$

A $f'(x) = x^{\frac{1}{2}}$

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

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

D $f'(x) = \frac{3}{2}x^{\frac{3}{2}}$

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

$$f(x) = x^{\frac{5}{3}}$$

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

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

C $f'(x) = \frac{5}{3}x^{\frac{5}{3}}$

D $f'(x) = x^{\frac{2}{3}}$

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

$$f(x) = x^{\frac{5}{2}}$$

A $f'(x) = \frac{5}{2}x^{\frac{7}{2}}$

B $f'(x) = x^{\frac{3}{2}}$

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

D $f'(x) = \frac{5}{2}x^{\frac{5}{2}}$