

## Differentiating and Rational Powers

1.  $\frac{dy}{dx} = \frac{1}{2\sqrt{x}}$

2.  $\frac{dy}{dx} = \frac{-1}{x^2}$

3.  $\frac{dy}{dx} = \frac{-1}{2\sqrt{x^3}}$

4.  $\frac{dy}{dx} = \frac{1}{3\sqrt[3]{x^2}}$

5.  $\frac{dy}{dx} = \frac{-2}{x^3}$

6.  $\frac{dy}{dx} = \frac{-1}{3\sqrt[3]{x^4}}$

7.  $\frac{dy}{dx} = \frac{-3}{x^2}$

8.  $\frac{dy}{dx} = \frac{5}{2\sqrt{x}}$

9.  $\frac{dy}{dx} = \frac{2}{3\sqrt[3]{x}}$

10.  $\frac{dy}{dx} = \frac{-6}{\sqrt{x^5}}$

11.  $\frac{dy}{dx} = 5 - \frac{5}{x^2}$

12.  $\frac{dy}{dx} = 6x - \frac{6}{x^3}$

13.  $\frac{dy}{dx} = \frac{3}{2\sqrt{x}} - \frac{2}{3\sqrt[3]{x^4}}$

14.  $\frac{dy}{dx} = \frac{-6}{x^3} - \frac{2}{3x^3}$

15.  $\frac{dy}{dx} = \frac{-9}{4\sqrt{x^5}}$

16.  $\frac{dy}{dx} = \frac{-3}{x^5}$