

## Differentiating $x^n$

### Examples

$$1. y = x^5$$

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

$$3. y = 2x^6$$

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

$$5. y = \sqrt{x^6}$$

### Test Your Understanding

$$1. y = x^7$$

$$2. y = 3x^{10}$$

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

$$4. y = ax^a$$

$$5. f(x) = \sqrt{49x^7}$$