

# Exponents

$$(-2)^4$$

↓

The base is -2.

$$(-2)(-2)(-2)(-2) = 16$$

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vs.

$$-2^4$$

↙   ↓

The base is 2.

$$-(2 \cdot 2 \cdot 2 \cdot 2) = -16$$

↘

The opposite of....

Evaluate each expression when  $x = 10$ .

1.  $x^2 =$  \_\_\_\_\_      2.  $-(x)^2 =$  \_\_\_\_\_

3.  $x^3 =$  \_\_\_\_\_      4.  $-(x)^3 =$  \_\_\_\_\_

Evaluate each expression when  $x = -2$ .

5.  $x^3 =$  \_\_\_\_\_      6.  $-(x)^3 =$  \_\_\_\_\_

7.  $x^2 =$  \_\_\_\_\_      8.  $-(x)^2 =$  \_\_\_\_\_

Evaluate each expression when  $x = 4$ .

9.  $-(x)^2 =$  \_\_\_\_\_      10.  $-(x)^3 =$  \_\_\_\_\_

11.  $x^2 =$  \_\_\_\_\_      12.  $x^3 =$  \_\_\_\_\_

Evaluate each expression when  $x = -7$ .

13.  $x^1 =$  \_\_\_\_\_      14.  $x^3 =$  \_\_\_\_\_

15.  $-(x)^2 =$  \_\_\_\_\_      16.  $x^2 =$  \_\_\_\_\_

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The base is 2.

$$-(2 \cdot 2 \cdot 2 \cdot 2) = -16$$

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The opposite of....

Evaluate each expression when  $x = 10$ .

1.  $x^2 = 100$  \_\_\_\_\_

2.  $-(x)^2 = -100$  \_\_\_\_\_

3.  $x^3 = 1,000$  \_\_\_\_\_

4.  $-(x)^3 = -1,000$  \_\_\_\_\_

Evaluate each expression when  $x = -2$ .

5.  $x^3 = -8$  \_\_\_\_\_

6.  $-(x)^3 = 8$  \_\_\_\_\_

7.  $x^2 = 4$  \_\_\_\_\_

8.  $-(x)^2 = -4$  \_\_\_\_\_

Evaluate each expression when  $x = 4$ .

9.  $-(x)^2 = -16$  \_\_\_\_\_

10.  $-(x)^3 = -64$  \_\_\_\_\_

11.  $x^2 = 16$  \_\_\_\_\_

12.  $x^3 = 64$  \_\_\_\_\_

Evaluate each expression when  $x = -7$ .

13.  $x^1 = -7$  \_\_\_\_\_

14.  $x^3 = -343$  \_\_\_\_\_

15.  $-(x)^2 = -49$  \_\_\_\_\_

16.  $x^2 = 49$  \_\_\_\_\_