

guided notes

NAME _____

DATE _____

Module 1 Getting Ready for Algebra
Lesson 4 Simplifying Expressions with Exponents and Roots

Lesson Objectives

- Simplify expressions of the form b^n , where n is a natural number and b is a rational number.
- Simplify square roots and cube roots.

An exponential expression takes the form b^n .

The expression b^2 can be read as _____ or _____.

The expression b^3 can be read as _____ or _____.

In this expression, b is the _____ and n is the _____.

To simplify b^n , use _____ as a factor _____ times.

The _____ form of 3^4 is $3 \cdot 3 \cdot 3 \cdot 3$.

For any real number b , except $b = 0$, $b^0 =$ _____.

1 Simplify: 4^2

2 Simplify: 8^0

3 Simplify: 3^1

4 Simplify: $\left(\frac{1}{4}\right)^3$

(negative)^{even} = _____

(negative)^{odd} = _____

5 Determine the sign of $(-1)^{14}$, then simplify.

- The sign will be _____.
- $(-1)^{14} =$ _____

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6 Determine the sign of $(-\frac{1}{3})^3$, then simplify.

- The sign will be _____.
- $(-\frac{1}{3})^3 =$ _____

The $\sqrt{\quad}$ symbol is called a _____ sign.

The $\sqrt{\quad}$ symbol indicates the principle, or nonnegative, square root.

The symbol $\sqrt[3]{\quad}$ indicates the _____ root.

7 Simplify: $\sqrt{100} =$

8 Simplify: $\sqrt[3]{27} =$

9 Simplify: $\sqrt[3]{-216} =$

