

**guided notes**

NAME \_\_\_\_\_

DATE \_\_\_\_\_

**Module 17** Simplifying Radical Expressions

**Lesson 1** Simplifying Radicals

**Lesson Objectives**

- Simplify square root expressions.
- Simplify cube root expressions.

$a$  is a square root of  $b$  if \_\_\_\_\_.

$\sqrt{\quad}$  means the \_\_\_\_\_ square root.

**Product Property for Square Roots:**

For nonnegative numbers  $a$  and  $b$ , \_\_\_\_\_.

For a square root expression to be simplified, the \_\_\_\_\_

must contain no perfect \_\_\_\_\_ factors other than

\_\_\_\_\_.

The square root of a \_\_\_\_\_ number is not a real number.

1 Simplify:  $\sqrt{63}$  \_\_\_\_\_

2 Simplify:  $\sqrt{80}$  \_\_\_\_\_

3 Simplify:  $\sqrt{-8}$  \_\_\_\_\_

$a$  is a cube root of  $b$  if \_\_\_\_\_.

For  $\sqrt[n]{a}$ ,  $n$  is the \_\_\_\_\_ and  $a$  is the \_\_\_\_\_.

The cube root of a number has the same sign as \_\_\_\_\_.

**Product Property for Cube Roots:**

For any numbers  $a$  and  $b$ , \_\_\_\_\_.

For a cube root expression to be simplified, the \_\_\_\_\_

must contain no perfect \_\_\_\_\_ factors other than

\_\_\_\_\_.

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4 Simplify:  $\sqrt[3]{128}$  \_\_\_\_\_

5 Simplify:  $\sqrt[3]{-500}$  \_\_\_\_\_

$\sqrt{x^2} =$  \_\_\_\_\_

$\sqrt[3]{x^3} =$  \_\_\_\_\_

