Lesson 6
Square Roots

NAME:

Start by navigating to the Online Lesson for instructions.

Objectives

- Simplify square roots containing perfect square numbers
- Estimate a square root on a number line

Why?

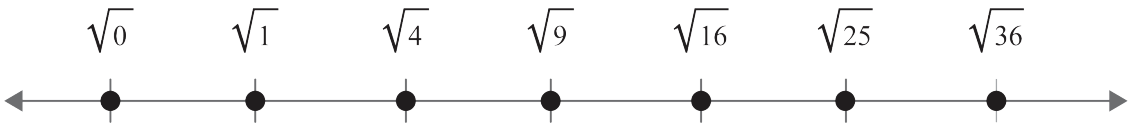
We simplify and estimate square roots to make sense of numbers that are not whole or rational numbers. Knowing how to find and estimate square roots helps us plot them on a number line as well as compare them to other values. This skill helps calculate side lengths in geometry, solve equations in algebra, and it strengthens your number sense.

Explore

Square Roots

Fill in the notes as you watch the video in the Online Lesson.

- The _____ of a number is the opposite, or inverse, of the square of a number.



- Starting with _____, perfect squares can be graphed on a number line.
- To find the square root of a _____, ask yourself, “What number multiplied by itself results in the given value?”

Example 1

Complete the example as you watch the video in the Online Lesson.

A) Circle the perfect squares in the list of numbers.

25, 32, 36, 47, 49, 72, 81

B) Estimate the following numbers on a number line. Label each closed point.

$\sqrt{25}$, $\sqrt{32}$, $\sqrt{36}$, $\sqrt{47}$, $\sqrt{49}$, $\sqrt{72}$, $\sqrt{81}$

Example 2

Complete the example as you watch the video in the Online Lesson.

Simplify. If the number is not a perfect square, write "not a perfect square."

A) $\sqrt{121}$ **B)** $-\sqrt{81}$ **C)** $\sqrt{10}$

Practice

Complete the problems. Show your work.

1) Circle the perfect squares in the list of numbers.

$4, \ 5, \ 9, \ 13, \ 14$

2) Estimate the following numbers on a number line. Label each closed point.

$\sqrt{4}, \ \sqrt{5}, \ \sqrt{9}, \ \sqrt{13}, \ \sqrt{14}$

3) Circle the perfect squares in the list of numbers.

$12, \ 16, \ 24, \ 25, \ 30$

4) Estimate the following numbers on a number line. Label each closed point.

$\sqrt{12}, \ \sqrt{16}, \ \sqrt{24}, \ \sqrt{25}, \ \sqrt{30}$

Simplify. If the number is not a perfect square, write, "not a perfect square."

5) $\sqrt{81}$

6) $-\sqrt{1}$

7) $\sqrt{30}$

8) $-\sqrt{144}$

9) $-\sqrt{49}$

10) $\sqrt{0}$

To continue, return to the Online Lesson.