

Radicals: Lesson 1

Introduction to Radicals: Notes

Name: _____

Answer Key

MATH 4 ALL

$$3^2 = 3 \text{ " } \underline{\text{Squared}} \text{ " } = 3 \times 3 = 9$$

The square root of 9 equals 3.

The symbol $\sqrt{\quad}$ is called the **radical**.

What number times itself equals what is under the radical?

$$\sqrt{25} = \underline{5} \quad \sqrt{49} = \underline{7}$$

Perfect squares up to 100:

1, 4, 9, 16, 25, 36, 49, 64, 81, 100

$$\sqrt{81} = \underline{9} \quad \sqrt{16} = \underline{4}$$

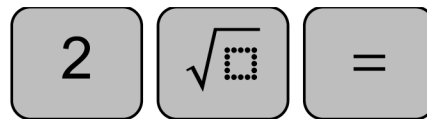
$\sqrt{\text{not a perfect square}}$

- Use a calculator.
- The answer will be an estimate.
- Because the answer never ends or repeats, it is called **irrational**.

Use a calculator to find $\sqrt{2}$.



or



Answer: 1.414213562...

$$\text{Check: } 1.4 \times 1.4 = \underline{1.96}$$

$$1.41 \times 1.41 = \underline{1.9881}$$

Use a calculator to find $\sqrt{54}$, rounding to the nearest hundredth.

$$\sqrt{54} = 7.34846922\dots \approx \underline{7.35}$$

★ Very Important! ★

We cannot take square roots of negative numbers!

$$\sqrt{-9} \neq 3 \text{ because } -3 \times -3 \neq \underline{-9}.$$

$$\sqrt{-9} = \text{No real solutions}$$

$$-\sqrt{25} = \underline{-5}$$