**Math 9 Note**s Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Square Roots** Day \_\_\_ Period \_\_\_

 Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Explain how the diagram below represents $\sqrt{9}$.



Draw a diagram to represent $\sqrt{25}$.

**To determine the area of a square we multiply the side length by itself.**

**To determine the side length of a square we take the square root of its area.**

A **perfect square** can be expressed as the product of two equal numbers.

* List the first 12 perfect squares.
* Determine the square root of each number below.

$ \frac{9}{16}$ $0.36$ 0.09

$ \frac{8}{18}$ 6.25

**Non-perfect squares:**

To estimate the value of a non-perfect square, determine the closest perfect square above and below the number.

**Example:** Estimate $\sqrt{8}$.

Step 1: The two closest perfect squares are \_\_\_\_\_ and \_\_\_\_\_.

Step 2: $\sqrt{8}$ is closer to the perfect square \_\_\_\_\_\_.

Step 3: Estimate the value of $\sqrt{8}≈$ \_\_\_\_\_\_\_\_\_\_

* **Estimate the value of the following non-perfect squares:**

 $ \sqrt{62}$ $\sqrt{90}$



* **Pythagorean theorem review**

$ a^{2}+b^{2}=c^{2}$

 8cm

 12cm

Homework: p. 78 #’s 5,6,8,10,15,17,19