

Estimate Square Roots

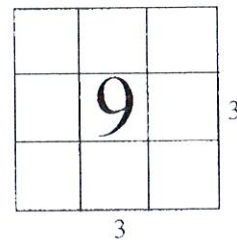
Big Ideas: *Square roots are the "sides" of a square of a given number.

*Numbers that are not perfect squares need to be estimated.

Steps:

1. Find the two perfect square numbers the unknown is between.
2. Estimate the square root to the nearest tenths place.

**Continue to estimate until you have one estimate above and one below and find the closest of the two.



Example:

$$\sqrt{9} \quad \sqrt{13} \quad \sqrt{16}$$



$$\begin{array}{r} 3.6 \\ \times 3.6 \\ \hline 21.86 \end{array}$$

$$\begin{array}{r} 108 \times \\ \hline 12.96 \end{array}$$

Low .04

$$\begin{array}{r} 3.7 \\ \times 3.7 \\ \hline 25.9 \end{array}$$

$$\begin{array}{r} 111 \times \\ \hline 13.69 \end{array}$$

High .69

$$\sqrt{13} \approx 3.6$$