Lesson 3-6

Example 1: Estimating Square Roots of Numbers

I Do	We Do	You Do
$\sqrt{30}$	$\sqrt{112}$	$\sqrt{53}$
$\sqrt{25} < \sqrt{30} < \sqrt{36}$ $5 < \sqrt{30} < 6$ between 5 & 6	$\sqrt{100} < \sqrt{112} < \sqrt{121}$ $10 < \sqrt{112} < 11$ between 10 & 11	$\sqrt{49} < \sqrt{53} < \sqrt{64}$ $7 < \sqrt{53} < 8$ between 7 & 8

I Do	We Do	You Do
$\sqrt{125}$	$\sqrt{11}$	$\sqrt{97}$
$\sqrt{121} < \sqrt{125} < \sqrt{144}$ $11 < \sqrt{125} < 12$ between 11 & 12	$\sqrt{9} < \sqrt{11} < \sqrt{16}$ $3 < \sqrt{11} < 4$ between 3 & 4	$\sqrt{81} < \sqrt{97} < \sqrt{100}$ $9 < \sqrt{97} < 10$ between 9 & 10

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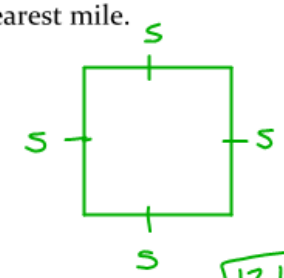
Example 2: Application

A search and rescue team is looking for a lost hiker. If the woods they are covering has a square area of 125 square miles, what is the length of each side of the woods? Round your answer to the nearest mile.



$A = s \cdot s$

$A = s^2$

$\sqrt{125} = \sqrt{s^2}$

$\sqrt{121} < \sqrt{125} < \sqrt{144}$

$11 < \sqrt{125} < 12$

$s = 11$ miles

Example 3: Using a Calculator to Estimate the Value of a Square Root

Use a calculator to find the square root. Round to the nearest hundredth.

I Do	We Do	You Do
$\sqrt{47}$	$\sqrt{192}$	$\sqrt{253}$
6.855 65	13.85 640	15.90 5
6.86	13.86	15.91