

Square Roots (3-5)

<i>square root</i>	Decode squ·are r·oot
Definition a # times itself gives you the radicand	Example $\sqrt{64} = 8$ $8 \cdot 8 = 64$

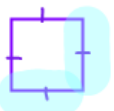
<i>perfect square</i>	Decode per·fect squ·are
Definition When you get a whole # square root	Example $\sqrt{36} = 6$

Example 1: Finding Square Roots of a Number

I Do	We Do	You Do
$\sqrt{36}$	$\sqrt{121}$	$\sqrt{64}$
± 6	± 11	± 8
$6 \cdot 6 = 36$ $-6 \cdot -6 = 36$		

Example 2: Application

A square window has an area of 169 square inches. How wide is the window?



$$A = 169 \text{ in}^2$$

$$\sqrt{169}$$

$$13 \text{ inches}$$

Example 3: Simplifying Expressions with Square Roots

I Do	We Do	You Do
$4\sqrt{36} + 12$ $4 \cdot 6 + 12$ \checkmark $24 + 12$ (36)	$\sqrt{\frac{225}{9}}$ $\frac{\sqrt{225}}{\sqrt{9}} = \frac{15}{3}$ (5)	$5\sqrt{144} - 92$ $5 \cdot 12 - 92$ $60 - 92$ (-32)

IXL Lessons: 8th Grade → F.15, F.16

$$-\sqrt{64}$$

$$(-8)$$

vs. $\sqrt{-64}$

Not a real #

$$8 \cdot 8 = 64$$

$$-8 \cdot -8 = 64$$
~~$$8 \cdot 8 = -64$$~~