

# 9.1 Square Root

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Squaring

$$4^2 = 16$$

times By  
itself  
 $4 \cdot 4 = 16$

What is the opposite (Inverse)  
of Squaring? **Square Root**

$$\text{If } a^2 = b \text{ Then } \sqrt{b} = a$$



$$\sqrt{36} = \underline{\underline{6}}$$

What # times itself  
equals the Radicand

$$-\sqrt{36} = \underline{\underline{-6}}$$

$$\pm \sqrt{36} = \underline{\underline{\pm 6}}$$

Plus/Minus Sign

# # of Square Roots:

If the Radicand  
is . . .

$$\begin{aligned} 3^2 = 9 &\Rightarrow \sqrt{9} = 3 \\ (-3)^2 = 9 &\Rightarrow \sqrt{9} = -3 \\ \sqrt{9} = 3 \text{ or } -3 &= \underline{\underline{\pm 3}} \end{aligned}$$

Positive Two → Two Answers

Negative But Why → No Answers

Zero → 1 Answer

$$\sqrt{81} = \underline{\underline{9}}$$

$$\pm \sqrt{49} = \underline{\underline{\pm 7}}$$

$$-\sqrt{225} = \underline{\underline{-15}}$$

Evaluate:

$$\sqrt{b^2 - 4ac}$$

$$\begin{aligned} a &= 1 \\ b &= -2 \\ c &= -3 \end{aligned}$$

$$= \sqrt{(-2)^2 - 4(1)(-3)}$$

$$= \sqrt{4 + 12}$$

$$= \sqrt{16} = \underline{\underline{4}}$$

$$-\sqrt{49} = \underline{\underline{-7}}$$

$$\sqrt{5} \approx \underline{\underline{2.24}}$$

$\sqrt{(5)}$   
2.236067977  
-↑  
6 > 5  
So...

O.T.L.

① pg 502-503

16-64 even