

# 9.1

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10:58 AM

## The Square Root Method

The equation  $x^2=c$  has two solutions:  
 $x=\sqrt{c}$  or  $x=-\sqrt{c}$  if  $c>0$ .

ex)  $x^2=25$  then  $x=\sqrt{25}=5$  or  $x=-\sqrt{25}=-5$   
■ Since  $(5)^2=25$  and  $(-5)^2=25$

We can use this to solve some quadratics.

ex)  $x^2-9=0$   
■  $x^2=9$   
 $x=\pm\sqrt{9}$   
 $x=\pm 3$

ex)  $2x^2-32=0$   
■  $2x^2=32$   
 $x^2=16$   
 $x=\pm 4$

ex)  $(x+2)^2-9=0$   
■  $(x+2)^2=9$   
 $x+2=\pm\sqrt{9}$   
 $x+2=3$  or  $x+2=-3$   
 $-2$     $-2$     $-2$     $-2$   
"    $1$     $x=-5$



## Rationalizing The Denominator

We don't want  $\sqrt{\quad}$  in denominators.

General approach

$$\frac{a}{\sqrt{b}} \rightarrow \frac{a\sqrt{b}}{\sqrt{b}\sqrt{b}} = \frac{a\sqrt{b}}{b}$$

$$\textcircled{4} \frac{2}{\sqrt{5}} \cdot \frac{\sqrt{5}}{\sqrt{5}} = \frac{2\sqrt{5}}{\sqrt{25}} = \frac{2\sqrt{5}}{5}$$