

Reminder:
The square root method only works for quadratic equations in the form of $\mathbf{a x} \mathbf{~} \mathbf{+ c}=\mathbf{0}$. Quadratics in the form of $\mathbf{a} \mathbf{x}^{2}+\mathbf{b x}+\mathbf{c}=\mathbf{0}$ can only be solved by factoring.

## Solve each quadratic below.

FACTOR

1. $x^{2}+2 x-8=0$

$$
\begin{aligned}
& (x+4)(x-2)=0 \\
& x+4=0 \\
& x-2=0 \\
& x=-4
\end{aligned} \quad x=2, ~ l
$$

FACTOR
2. $6 x^{2}-24 x=72$

$$
\begin{aligned}
& 6 x^{2}-24 x-72=0 \\
& 6\left(x^{2}-4 x-12\right)=0 \\
& 6(x-6)(x+2)=0 \\
& x-6=0 \quad x+2=0 \\
& x=6 \quad x=-2
\end{aligned}
$$

$$
x=\{6,-2\}
$$

## SQUARE ROOT

5. $\frac{9 x^{2}}{9}=\frac{81}{9}$

$$
v^{2}-0
$$

$$
x^{2}=9
$$

$$
\sqrt{x^{2}}= \pm \sqrt{9}
$$

$$
x= \pm 3
$$

$$
x=\{3,-3\}
$$

SQUARE ROOT
3. $4(x-3)^{2}=20$

$$
x=\{-4,2\}
$$

$$
\begin{aligned}
(x-3)^{2} & =5 \\
\sqrt{(x-3)^{2}} & = \pm \sqrt{5} \\
x-3 & = \pm \sqrt{5} \\
+3 & +3 \\
x=3 & \pm \sqrt{5}
\end{aligned}
$$

$$
x=\{3+\sqrt{5}, 3-\sqrt{5}\}
$$

## FACTOR

4. $5 x^{2}+20 x=0$
$5 x(x+4)=0$
$5 \mathrm{x}=0 \quad \mathrm{x}+4=0$
$x=0 \quad x=-4$
$x=\{0,-4\}$

## FACTOR

6. $\frac{x}{9}=\frac{2}{x-3}$

$$
\begin{aligned}
& x(x-3)=(2)(9) \\
& x^{2}-3 x=18 \\
& x^{2}-3 x-18=0 \\
& (x-6)(x+3)=0 \\
& x-6=0 \quad x+3=0 \\
& x=6 \quad x=-3
\end{aligned}
$$

$$
x=\{6,-3\}
$$

