Solve By...

$$x^2 - 10x - 24 = 0$$

Quadratic Formula

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

$a = 1$
$b = -10$
$c = -24$

$$x = \frac{10 \pm \sqrt{(-10)^2 - 4(1)(-24)}}{2}$$

$$x = \frac{10 \pm \sqrt{196}}{2}$$

$$x = \frac{10 \pm 14}{2}$$

$$x = 5 \pm 7$$

$x = 5 + 7$
$\boxed{x = 12}$

$x = 5 - 7$
$\boxed{x = -2}$

Factoring

$$x^2 - 10x - 24 = 0$$

A M

Mult. to -24	Add to -10
-12, 2	-10 ✓

$$(x - 12)(x + 2) = 0$$

$x - 12 = 0$ $\quad$ $x + 2 = 0$

$\boxed{x = 12}$ $\quad$ $\boxed{x = -2}$

Completing the Square:

$x^2 - 10x - 24 = 0$

$+24 \quad +24$

$x^2 - 10x + \_\_\_\_ = 24$

① $(-10)(\frac{1}{2}) = -5$

② $(-5)^2 = 25$

$x^2 - 10x + 25 = 24 + 25$

$\sqrt{(x-5)^2} = \sqrt{49}$

$x - 5 = \pm 7$

$+5 \quad +5$

$x = 5 \pm 7$

$x = 5 + 7$

$x = 12$

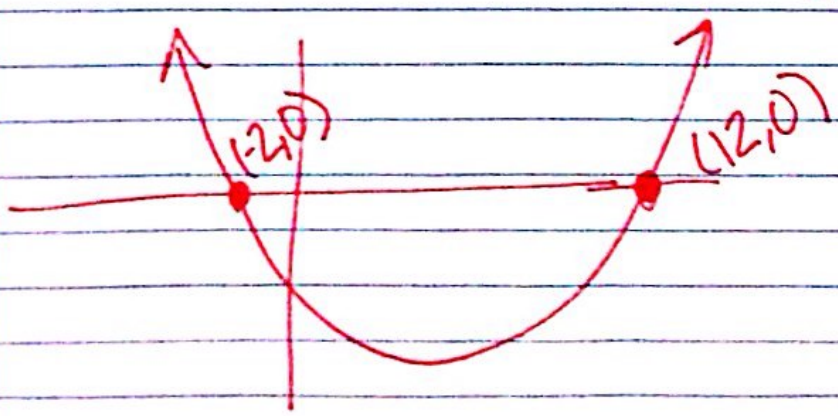
$x = 5 - 7$

$x = -2$

Graphing

$x^2 - 10x - 24 = 0$

Type "$x^2 - 10x - 24$" in $y =$



$x = -2$

$x = 12$

$$x^2+2x-15=0$$

Quad Formula

① $x=\frac{-2\pm\sqrt{2^2-4(1)(-15)}}{2(1)}$

② $x=\frac{-2\pm\sqrt{64}}{2(1)}$ $\begin{matrix}8\\8\end{matrix}$ $x=3$ $x=-5$

③ $x=\frac{-2\pm 8}{2(1)}$

Factoring

$x^2+2x-15=0$

$(x-3)(x+5)=0$

$x-3=0$ $+3\ +3$ $\quad x+5=0$ $-5\ -5$

$x=3$ $\quad x=-5$

Complete Square

$x^2+2x-15=0$ $+15\ +15$

$x^2+2x+\underline{\ \ }=15+\underline{\ \ }$ $\quad \left(\frac{2}{2}\right)^2=1$

$x^2+2x+1=15+1$

$x^2+2x+1=16$

$\sqrt{(x+1)^2}=\sqrt{16}$

$x+1=\pm 4$ $\quad -1\ -1$

$x=\pm 4-1$

$x=4-1$

$\boxed{3}$

$x=-4-1$

$\boxed{-5}$

Graphing

$x=-5$

$x=3$