Solve by Taking Square Roots

*This is for when there is only a squared term (x^2) and no other variables.

*There is no gcf and it isn't a difference of squares.

Solve.

$\sqrt{x^2} = \sqrt{47}$

$x = \pm\sqrt{47}$

$\sqrt{4} = \pm 2$

$\sqrt{x^2} = \sqrt{-36}$

No Solution

$\frac{49n^2}{49} = \frac{100}{49}$

$\sqrt{n^2} = \sqrt{\frac{100}{49}}$

$n = \pm\frac{10}{7}$

$9n^2 + 7 = 268$

$-7 \quad -7$

$\frac{9n^2}{9} = \frac{261}{9}$

$\sqrt{n^2} = \sqrt{29}$

$n = \pm\sqrt{29}$

$2 \cdot \frac{1}{2}\left(x + \frac{9}{2}\right)^2 = 2 \cdot 2$

$\sqrt{\left(x + \frac{9}{2}\right)^2} = \sqrt{4}$

$x + \frac{9}{2} = \pm 2$

$-\frac{9}{2} \quad -\frac{9}{2}$

$x = -\frac{5}{2}, -\frac{13}{2}$

$-\frac{9}{2} + \frac{2}{1} \cdot \frac{2}{2}$

$-\frac{9}{2} + \frac{4}{2} = -\frac{5}{2}$

$-\frac{9}{2} - \frac{2}{1} \cdot \frac{2}{2}$

$-\frac{9}{2} - \frac{4}{2} = -\frac{13}{2}$

$(x+3)^2 - 2 = 0$

$+2 \quad +2$

$\sqrt{(x+3)^2} = \sqrt{2}$

$x + 3 = \pm\sqrt{2}$

$-3 \quad -3$

$x = -3 \pm \sqrt{2}$

$2(x-4)^2 + 4 = 0$

$-4 \quad -4$

$\frac{2(x-4)^2}{2} = \frac{-4}{2}$

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

No Solution