

What questions do you have on your "Solving Quadratics by Completing the Square" worksheet? We will be taking our quiz soon...

Completing the  $\square$  wks

$$\textcircled{17} \quad 6n^2 + 20n - 47 = 3$$

$$\qquad\qquad\qquad +47 \quad +47$$


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$$6n^2 + 20n = 50$$

$$6\left(n^2 + \frac{10}{3}n + \frac{25}{9}\right) = 50 + \frac{50}{3}$$

$$6\left(n + \frac{5}{3}\right)^2 = \frac{200}{3}$$

$$6\left(n + \frac{5}{3}\right)^2 - \frac{200}{3} = 0$$

$$\frac{20}{6}$$

$$\left(\frac{10}{3}\right)^2 = \frac{100}{9}$$

$$\left(\frac{5}{3}\right)^2 = \frac{25}{9}$$

$$15) \quad \begin{array}{r} 6r^2 - 12r - 27 = -9 \\ \phantom{6r^2 - 12r} + 27 \phantom{= -9} \\ \hline 6r^2 - 12r = 18 \end{array}$$

$$6(r^2 - 2r + 1) = 18 + 6$$

$$6(r-1)^2 = 24$$

$$6(r-1)^2 - 24 = 0$$

$$\begin{array}{l} \left(-\frac{2}{2}\right)^2 = \\ (-1)^2 = \\ 1 \end{array}$$

QUIZ  
Time ☺

To solve quadratics by taking square roots, you use your equation-solving skills, using PEMDAS backwards.

From your

work Solve each equation by taking square roots.

$$4) \sqrt{a^2} = \sqrt{39}$$

$$a = \pm \sqrt{39}$$

OR

$$a = \sqrt{39}, -\sqrt{39}$$

$$10) 2n^2 - 6 = -22$$

$$+6 \quad +6$$

$$\frac{2n^2}{2} = \frac{-16}{2}$$

$$\sqrt{n^2} = \sqrt{8}$$

$$\begin{array}{r} 39 \\ \sqrt{\quad} \\ 13 \end{array}$$

$$n = \sqrt{-1 \cdot 8}$$

$$n = \sqrt{-1} \cdot \sqrt{4} \cdot \sqrt{2}$$

$$n = \pm 2i\sqrt{2}$$

$$i = \sqrt{-1}$$

$$\sqrt{-8} = \pm i\sqrt{8} \dots$$

$$\sqrt{-6} = \pm i\sqrt{6} \dots$$

$$\sqrt{-49} = \pm i\sqrt{49} = \pm 7i$$

Solve each equation by taking square roots.

$$16) 49x^2 + 8 = 9$$

$$20) 25x^2 - 2 = 7$$

# Homework

## Solving Quadratics by Taking Square Roots WKS