

Two Methods for Solving Quadratics Equations

Solve each problem in column A using square roots. Solve each problem in column B with the quadratic formula. Round to nearest hundredth.

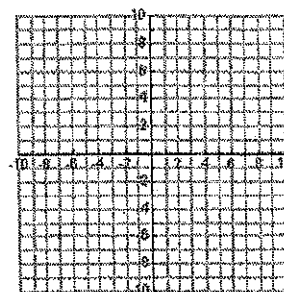
A	B
1. $(x+2)^2 - 8 = 0$	1. $x^2 + 4x - 4 = 0$
2. $(x-1)^2 - 2 = 0$	2. $x^2 - 2x = 1$
3. $(x+4)^2 - 25 = 0$	3. $x^2 + 8x - 9 = 0$
4. $(x+5)^2 + 3 = 0$	4. $x^2 + 10x + 28 = 0$

Let's check your work for #3 and 4!

To check #3, solve the equation in column B by factoring: $x^2 + 8x - 9 = 0$

To check #4, solve the equation in Column A by graphing:
 $y = (x+5)^2 + 3$

HINT: Graph and look for the x-intercepts!



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

Two Methods for Solving Quadratics Equations

Solve each problem in column A using square roots. Solve each problem in column B with the quadratic formula. Round to nearest hundredth.

A	B
1. $(x+2)^2 - 8 = 0$ $\sqrt{(x+2)^2} = \sqrt{8}$ $x+2 = \pm\sqrt{8}$ $x+2 = \pm 2\sqrt{2}$ $x = \frac{2\sqrt{2}-2}{-2\sqrt{2}-2} = -4.83 \checkmark$	1. $x^2 + 4x - 4 = 0$ $\frac{-4 \pm \sqrt{16 - 4 \cdot 1 \cdot -4}}{2 \cdot 1}$ $\frac{-4 \pm \sqrt{32}}{2} = \frac{-4 \pm 4\sqrt{2}}{2}$ $-2 \pm 2\sqrt{2}$
2. $(x-1)^2 - 2 = 0$ $(x-1)^2 = 2$ $x-1 = \pm\sqrt{2}$ $x = \sqrt{2} + 1, -\sqrt{2} + 1$	2. $x^2 - 2x = 1$ $x^2 - 2x - 1 = 0$ $\frac{2 \pm \sqrt{4 - 4 \cdot 1 \cdot -1}}{2 \cdot 1}$ $\frac{2 \pm \sqrt{8}}{2} = \frac{2 \pm 2\sqrt{2}}{2} = 1 \pm \sqrt{2}$
3. $(x+4)^2 - 25 = 0$ $(x+4)^2 = 25$ $x+4 = 5, -5$ $x+4 = 5 \quad x+4 = -5$ $x = 1, -9$	3. $x^2 + 8x - 9 = 0$ $\frac{-8 \pm \sqrt{64 - 4 \cdot 1 \cdot -9}}{2 \cdot 1}$ $\frac{-8 \pm \sqrt{100}}{2} = \frac{-8 \pm 10}{2} = \frac{-8-10}{2}$ $1, -9$
4. $(x+5)^2 + 3 = 0$ $\sqrt{(x+5)^2} = \sqrt{-3}$ No real soln	4. $x^2 + 10x + 28 = 0$ $\frac{-10 \pm \sqrt{100 - 4 \cdot 1 \cdot 28}}{2 \cdot 1}$ $\frac{-10 \pm \sqrt{-12}}{2}$ No real soln

Let's check your work for #3 and 4!

To check #3, solve the equation in column B by factoring: $x^2 + 8x - 9 = 0$

$$(x+9)(x-1) = 0$$

$$x+9=0 \quad x-1=0$$

$$x = -9, 1$$

To check #4, solve the equation in Column A by graphing: $y = (x+5)^2 + 3$

HINT: Graph and look for the x-intercepts!

