



Try these:

$$x^2 + 2x - 9 = 0$$

A handwritten diagram in blue ink illustrating the process of completing the square for the equation  $x^2 + 2x - 9 = 0$ . The diagram shows a rectangle with a horizontal line drawn across its middle. The left vertical side of the rectangle is labeled with the number '2'. The right vertical side is labeled with the expression 'x - 9'.

$$2x^2 + 8x + 3 = 0$$

If we complete the square to solve the general formula  $ax^2 + bx + c = 0$ , then we get the following called the quadratic formula:

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

$$\begin{array}{l} 3x^2 + 10x - 12 = 0 \\ ax^2 + bx + c = 0 \end{array}$$

Use the quadratic formula to solve the following:  
 Note: you can check your work using the calculator.

$$a^2 - 2a + 9 = 0$$

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

$$X = \frac{-(-2) \pm \sqrt{(-2)^2 - 4(1)(9)}}{2(1)}$$

$$X = \frac{2 \pm \sqrt{4 - 36}}{2}$$

~~No Soln~~  $\frac{2}{2}$

~~$X = \frac{2 \pm \sqrt{-32}}{2}$~~

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

$$X = \frac{-(-1) \pm \sqrt{1^2 - 4(3)(-2)}}{2(3)}$$

$$X = \frac{-1 \pm \sqrt{1 + 24}}{6}$$

$$X = \frac{-1 \pm 5}{6}$$

$$X = \frac{-1 + 5}{6} = \frac{4}{6} = \frac{2}{3}$$

$$X = \frac{-1 - 5}{6} = \frac{-6}{6} = -1$$

$$7x^2 - 12x + 1 = 0$$

$$X = \frac{-(-12) \pm \sqrt{(-12)^2 - 4(7)(1)}}{2(7)}$$

$$X = \frac{12 \pm \sqrt{144 - 28}}{14}$$

$$X = \frac{12 \pm \sqrt{116}}{14}$$

$$X = \frac{12 \pm 2\sqrt{29}}{14}$$

$$X = \frac{6 \pm \sqrt{29}}{7}$$

$$X = \frac{6 + \sqrt{29}}{7}$$

$$X = \frac{6 - \sqrt{29}}{7}$$

1.63
0.709

## Simplify our radical

$$\sqrt{8}$$

$$\sqrt{4} \cdot \sqrt{2}$$

$$2\sqrt{2}$$

$$\sqrt{75}$$

$$\sqrt{25} \cdot \sqrt{3}$$

$$5\sqrt{3}$$

1  
4  
9  
16  
25  
36  
49  
64  
81

$$\sqrt{116}$$

$$\sqrt{4} \cdot \sqrt{29}$$

$$2\sqrt{29}$$

Assignment:

Pg. 231 3-5 odds, 7 and 9 odds, 12