

Name: _____

CC ALGEBRA 2

Date: _____

TROICI

LESSON #4: COMPLETING THE SQUARE

DO NOW: Solve for x

1) $(x+4)^2 = 36$

2) $x^2 + 6x - 16 = 0$

What is another way we can solve $x^2 + 6x - 16 = 0$?

Steps:

| |
|---|
| In order to complete the square, the "a" value must be equal to 1! |
| 1. Move the constant ("c" value) to the right side. |
| 2. Make the left side a perfect square trinomial (Take half of the "b" value and square it) and add it to BOTH sides. |
| 3. Factor the perfect square trinomial and simplify right side. |
| 4. Take the square root of both sides and solve! (Remember positive and negative results!!!!) |

Solve for the roots in simplest radical form:

1. $x^2 + 8x - 4 = 0$

2. $x^2 + 20x = -40$

Find the solution set by completing the square. Round to the nearest hundredth:

3. $3x^2 - 12x - 24 = 0$

*4. $2x^3 + 16x^2 - 4x = 0$

*5. Solve for the roots by completing the square in simplest radical form: $x^2 - 7x = 1$

6. Brandon solved the following quadratic equation by completing the square. **Describe and correct his errors:**

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

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

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

$$(x - 1)^2 = 1$$

$$x - 1 = \pm\sqrt{1}$$

$$x = 1 \pm \sqrt{1}$$

$$x = \{0, 2\}$$