

Name:

Date:

Topic:

Class:

Main Ideas/Questions

Notes/Examples

**COMPLETING
THE SQUARE**(when $a > 1$)**Steps****Example**

- | Steps | | Example |
|-------|--|---------------------|
| ① | Rewrite as $ax^2 + bx = c$ | $4x^2 + 8x - 5 = 0$ |
| ② | Divide the equation by a . | |
| ③ | Take half of b , square it, then add this to both sides. | |
| ④ | Factor the perfect square trinomial. | |
| ⑤ | Take the square root of both sides and solve for both cases. | |

YOU TRY!**Directions:** Solve each equation by completing the square.

1. $2x^2 - 8x + 6 = 0$

2. $3x^2 - 18x - 48 = 0$

3. $5x^2 + 10x - 34 = 6$

4. $4x^2 + 8x + 3 = 0$

$$5. 3x^2 - 24x - 44 = 1 - x^2$$

$$6. 8x^2 + 16x = 90$$

IRRATIONAL SOLUTIONS

Directions: Solve each equation by completing the square. Simplify all irrational solutions.

$$7. 2x^2 - 16x + 22 = 0$$

$$8. 4x^2 + 40x - 12 = 0$$

$$9. 3x^2 - 6x - 3 = 90$$

$$10. 5x^2 + 30x - 4 = 16$$