

## 4 METHODS of SOLVING QUADRATIC EQUATIONS

1. What makes an equation a **quadratic equation**? \_\_\_\_\_

2. There are four methods. List them!

3. How can you determine which method to use?

a. If the equation has \_\_\_\_\_,  
Then use the \_\_\_\_\_ method.

b. If the equation has \_\_\_\_\_ and the trinomial is \_\_\_\_\_  
Then \_\_\_\_\_ and use the \_\_\_\_\_.

c. If the equation has \_\_\_\_\_ and the trinomial is \_\_\_\_\_  
Then use the \_\_\_\_\_ method

d. If completing the square fails (the Bx-term is \_\_\_\_\_)  
Then use the \_\_\_\_\_!

### WHICH METHOD WOULD YOU USE? SQ, ZPP, C, QF

1.  $x^2 - 6x + 5 = 0$  \_\_\_\_\_

2.  $4x^2 + 100 = 14$  \_\_\_\_\_

3.  $9x^2 - 100 = 0$  \_\_\_\_\_

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

5.  $-2 = 2x^2 + 8$  \_\_\_\_\_

6.  $x^2 + 3x + 1 = 0$  \_\_\_\_\_

7.  $4x^2 + 4x + 1 = 0$  \_\_\_\_\_

8.  $x^2 + 6x + 3 = 0$  \_\_\_\_\_

## SOLVING: WHICH METHOD SHOULD YOU USE?

Explain why!

	<b>Equation</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
1	$x^2 + 4x + 3 = 0$	Sq. Roots	Factor/ZPP	Complete Sq.	Quad. Form
2	$5x^2 - 1 = 6$	Sq. Roots	Factor/ZPP	Complete Sq.	Quad. Form
3	$x^2 - 7x + 1 = 0$	Sq. Roots	Factor/ZPP	Complete Sq.	Quad. Form
4	$x^2 + 10x + 4 = 0$	Sq. Roots	Factor/ZPP	Complete Sq.	Quad. Form
5	$x^2 - 14x = 5$	Sq. Roots	Factor/ZPP	Complete Sq.	Quad. Form
6	$5 - 3x^2 = 20$	Sq. Roots	Factor/ZPP	Complete Sq.	Quad. Form
7	$x^2 + x = 10$	Sq. Roots	Factor/ZPP	Complete Sq.	Quad. Form
8	$x^2 - 4x - 12 = 0$	Sq. Roots	Factor/ZPP	Complete Sq.	Quad. Form

## Solve Quadratic Equations Using All Methods!

Solve each equation (use the method provided)

1. Square Roots Method

$$(x + 3)^2 + 2 = -10$$

2. Factor to solve.

$$x^2 - 2x - 15 = 0$$

3. Complete the Square.

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

4. Quadratic Formula.

$$6x^2 + 2x + 1 = 0$$

## Solving Quadratic Equations

Solve each quadratic equation (use a different method for each question).

Use the Quadratic Formula on #1 only.

5.  $2x^2 + 5x + 3 = 0$

6.  $x^2 + 5x + 4 = 0$

7.  $-2 + 5x^2 = -62$

8.  $x^2 + 14x + 1 = 0$