

What is this expression called and how would this be factored?

$$4x^2 - 25$$

How would these be multiplied?

$$(x + 3)^2$$

$$(x - 3)^2$$

These are called \_\_\_\_\_.

Notice which terms have to be perfect squares for this to be even considered a PST.

This is the test to see if you have a PST.

Is this a perfect square trinomial?

$$x^2 + 10x + 25$$

How would it be factored?

Try this one too:

$$x^2 - 22x + 121$$

How would it be factored?

Hold that thought as we learn how to use this to solve quadratic equations.

Ex. 1 Solve the equation using SQUARE ROOTS. (hint: watch for perfect square trinomials because they are super easy to factor!)

|                           |                         |                            |
|---------------------------|-------------------------|----------------------------|
| a) $x^2 - 16x + 64 = 100$ | b) $x^2 - 18x + 81 = 5$ | c) $x^2 + 26x + 169 = -13$ |
|---------------------------|-------------------------|----------------------------|

Ex 2. Find the value of  $c$  that makes the expression a perfect square trinomial, then FACTOR it.

|                    |                   |
|--------------------|-------------------|
| a) $x^2 - 14x + c$ | b) $x^2 + 5x + c$ |
|--------------------|-------------------|

Algebra 2  
Completing the Square (day one)

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Solve the equation using SQUARE ROOTS. Watch for perfect square trinomials.

1.  $x^2 - 8x + 16 = 25$

2.  $x^2 - 10x + 25 = 1$

3.  $x^2 + 8x + 16 = 45$

4.  $x^2 - 24x + 144 = -100$

$$5. 4x^2 + 4x + 1 = 75$$

$$6. 4x^2 - 8x + 4 = 1$$

Find the value of  $c$  that makes the expression a perfect square trinomial and FACTOR it.

$$7. x^2 + 14x + c$$

$$8. x^2 + 20x + c$$

$$9. x^2 + 24x + c$$

$$10. x^2 + 9x + c$$