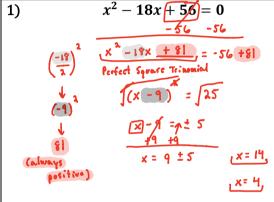
Unit 2B Day 6 Notes - Solving Quadratics by Completing the Square Date:_

Steps for Completing the Square	1)	Move the constant term to the other side of the equal sign.	
	2)	Divide both sides by the number in front of the x^2 (if needed).	
	3)	Take the middle term and do the following: $(\frac{b}{2})^2$.	
	4)	Add what you got from #3 to both sides of the equation.	
	5)	Rewrite the trinomial as a binomial squared.	
	6)	Solve using Square Root Property.	

Examples: Completing the Square



3)
$$x^{2} + 16x - 2x = -5$$

$$x^{2} + 16x + 64 = 16 + 64$$

$$x^{2} + 16x + 64 = 16 + 64$$

$$x^{3} + 16x + 64 = 16 + 64$$

$$x^{4} + 16x + 64 = 16 + 64$$

$$x^{5} - 3x + 4\sqrt{5}$$

$$x = -9 \pm 4\sqrt{5}$$

$$x = -9 \pm 4\sqrt{5}$$

4)
$$\frac{[3]x^{2} - 30x = 69}{3}$$

$$(-10)^{3} \quad x^{3} - 10x + 25 = 23 + 25$$

$$(x-5)^{3} \quad (x-5)^{4} = [49]$$

$$x - f = 24 + 1/3$$

5)
$$x^{2} + 12x - 4x = 0$$

$$+ \frac{12}{3}$$

$$x^{2} + 12x + \frac{13}{4}$$

$$x^{3} + \frac{13}{4}$$

$$x^{4} + \frac{13}{4}$$

$$x^{2} + \frac{13}{4}$$

$$x^{3} + \frac{13}{4}$$

$$x^{4} + \frac{13}{4}$$

$$x^{4} + \frac{13}{4}$$

$$x^{4} + \frac{13}{4}$$

$$x^{5} + \frac{13}{4}$$

$$x^{7} + \frac{13}{4}$$

$$x^{7$$

6)
$$4x^{2} - 76 = 16x \frac{16x + 76}{4x^{2} - 16x + 76}$$

$$\frac{4x^{2} - 16x + 76}{4x^{2} - 16x + 76}$$

$$\frac{4x^{2} - 16x + 76}{4x^{2} - 16x + 76}$$

$$x^{2} - 4x + 4 = 19 + 4$$

$$\sqrt{(x-2)^{2}} = \sqrt{3}$$

$$x - 1 = x^{2} \sqrt{3}$$

$$x - 2 = x^{2} \sqrt{3}$$

$$x = 2 = \sqrt{3}$$

Unit 28 Day 6 Notes Cout.

7).
$$x^{2} - 4x + 1 = -5$$

$$x^{2} - 4x + 4 = -5$$

$$x^{3} - 4x + 4 = -6 + 4$$

$$x^{4} - 4x + 4 = -6 + 4$$

$$x^{5} - 4x + 4 = -6 + 4$$

$$x^{5} - 4x + 4 = -6 + 4$$

$$x^{5} - 4x + 4 = -6 + 4$$

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$$x^{5} - 4x + 4 = -6 + 4$$

$$x^{5} - 4x + 4 = -6$$

8).
$$x^{2} + \lambda x = -\lambda 0$$

$$x^{2} + \lambda x = -\lambda 0$$

$$(\frac{\lambda}{2})^{2}$$

$$(x+1)^{2} = \sqrt{-11} = i\sqrt{11}$$

$$x \neq f = \pm i\sqrt{11}$$

$$x = -1 \pm i\sqrt{11}$$

Solve each equation by completing the square. Simplify all irrational and complex solutions. 1) $x^2 + 4x + 4 = 49$ 2) $x^2 - 12x + 36 = 80$					
1)	$x^2 + 4x + 4 = 49$	2)	$x^2 - 12x + 36 = 80$		
3)	$x^2 + 10x - 96 = 0$	4)	$x^2 = 16x - 63$		
5)	$3x^2-6x-45=0$	6)	$4x^2 + 24x = -36$		
7)	$x^2 + 2x - 37 = 0$	8)	$2x^2 - 20x - 89 = -87$		

Unit 28 Day 6 HW Cont.

9).
$$x^2 - 8x = -55$$
 10). $3x^2 + 9 = 6x$

$$(0). 3x^{3} + 9 = 6x$$