Name:_____   Class #:_____

Lesson 5: Factoring special polynomials
        The FOIL Method
        The Difference of Squares
        The Square of a Binomial
        Perfect Square Trinomial
        Tips for Multiplying Two Polynomials

Multiply each of the following. Show all steps.

1. $(1 + i)^2$

2. $(r - 2)(r + 2)$

3. $(t - 5)^2$

4. $(4x - 5)(4x + 5)$

Lesson 5: Factoring special polynomials
    ☐ Perfect Square Trinomial
    ☐ To Recognize a Perfect Square Trinomial
    ☐ Factoring Perfect Square Trinomials
    ☐ To Recognize the Difference of Squares
    ☐ Factoring a Difference of Squares
    ☐ Connecting the Concepts: Algebraic and Graphical Methods

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Solve each of the following. Show all steps.

5. $t^2 + 18t = -81$

6. $x^2 = 25$

7. $a^2 + 64 = 16a$

8. $25y^2 - 64 = 0$

9. $2b^2 - b = 21$

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10. Consider the equation

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

Solve this equation using two different methods:
  A. An algebraic technique.

  B. A graphical technique

x	Left-hand side: $y_1 = x^2 - x - 6$	Right-hand side: $y_2 = x - 3$
-4		
-3		
-2		
-1		
0		
1		
2		
3		
4		