

**Spring 2016 Final Exam Review: Algebra II Pre-AP (Part 1)**

Substitution

1.  $y = x^2 + 3x - 5$   
 $y = x + 3$

$(2, 5)$   
 $(-4, -1)$

3.  $y = x^2 - 10x + 14$   
 $y = 7x - 16$

$x^2 - 17x + 30$   
 $(x-15)(x-2)$

$(15, 89)$   
 $(2, -2)$

5.  $y = x^2 - 8x - 12$   
 $y = 4x + 8$

$(-1.483, 2.067)$   
 $(13.483, 61.933)$

7.  $y = x^2 - 9x - 18$   
 $y = x + 3$

$(-1.782, 1.218)$   
 $(11.782, 14.782)$

9.  $y = x^2 + 8x + 16$   
 $y = x + 6$

$x^2 + 7x + 10$   
 $(x+2)(x+5)$



$(-2, 4)$   
 $(-5, 1)$

elimination

2.  $y = x^2 - 4x + 6$   
 $y = x + 2$

$x^2 - 5x + 4$   
 $(x-4)(x-1)$

$(4, 6)$   
 $(1, 3)$

4.  $y = x^2 - 24$   
 $y = x - 12$

$x^2 - x - 12$   
 $(x-4)(x+3)$

$(4, -8)$   
 $(-3, -15)$

6.  $y = x^2 + 6x + 3$   
 $y = 3x - 7$

No solution

8.  $y = x^2 + 6x + 10$   
 $y = -2x - 6$

$x^2 + 8x + 16$   $(x+4)(x+4)$   
 $x = -4$

$(-4, 2)$

10.  $y = x^2 - 3x - 6$   
 $y = x + 6$

$x^2 - 4x - 12$

$(x-6)(x+2)$

$(6, 12)$   
 $(-2, 4)$

check the graph first

QF

QF

QF

Solve algebraically.

1.  $y = x^2 + 5x + 4$   
 $y = x - 8$

$$x^2 + 4x + 12$$

No solution

3.  $y = x^2 - 4x + 12$   
 $y = 4x - 4$

$(-4, -20)$   
 $x^2 - 8x + 16$   
 $(x-4)(x-4)$

5.  $y = x^2 - 7x - 15$   
 $y = 3x + 6$   
 $x^2 - 10x - 21$

$$(13.933, 33.799)$$

$$(-.933, -10.799)$$

7.  $y = x^2 - 5x - 14$   
 $y = x + 2$

$$x^2 - 6x - 16$$
  
 $(x-8)(x+2)$

$(8, 10)$   
 $(-2, 0)$

9.  $y = x^2 - 6x - 20$   
 $y = -x - 6$

$$x^2 - 5x - 14$$

$$(x-7)(x+2)$$
  
 $(7, -13)$



$$(-2, -4)$$

2.  $y = x^2 + 8x + 11$   
 $y = x + 1$

$$x^2 + 7x + 10$$
  
 $(x+2)(x+5)$

$(-2, -1)$   
 $(-5, -4)$

4.  $y = x^2 - 20$   
 $y = x - 8$

$$x^2 - x - 12$$
  
 $(x-4)(x+3)$

$(4, -4)$   
 $(3, -5)$

6.  $y = x^2 + 7x - 5$   
 $y = 2x + 9$

$$x^2 + 5x - 14$$

$$(x+7)(x-2)$$

$(-7, -5)$   
 $(2, 13)$

8.  $y = x^2 + 8x + 12$   
 $y = -3x - 6$

$$x^2 + 11x + 18$$

$$(x+9)(x+2)$$

$(-2, 0)$   
 $(-9, 21)$

10.  $y = x^2 - 6x - 9$   
 $y = x + 9$

$$x^2 - 7x - 18$$

$$(x-9)(x+2)$$

$(9, 18)$   
 $(-2, 7)$