

Math 2 - Honors  
 Unit 2 - Quadratic Function  
 Lesson 6 - Factoring HOMEWORK #2

Name \_\_\_\_\_

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

Factor completely:

1.  $3x^2 + 8x + 4$

$$x^2 + 8x + 12$$

$$(x + \frac{2}{3})(x + \frac{6}{3})$$

$$(3x + 2)(x + 2)$$

2.  $4x^2 + 4x - 15$

$$x^2 + 4x - 60$$

$$(x + \frac{10}{4})(x - \frac{6}{4})$$

$$(2x + 5)(2x - 3)$$

3.  $8x^2 + 65x + 8$

$$x^2 + 65x + 64$$

$$(x + \frac{64}{8})(x + \frac{1}{8})$$

$$(x + 8)(8x + 1)$$

4.  $15x^2 - 19x + 6$

$$x^2 - 19x + 90$$

$$(x - \frac{9}{15})(x - \frac{10}{15})$$

$$(5x - 3)(3x - 2)$$

5.  $7x^2 - 31x - 20$

$$x^2 - 31x - 140$$

$$(x - \frac{35}{7})(x + \frac{4}{7})$$

$$(x - 5)(7x + 4)$$

6.  $5x^2 - x - 18$

$$x^2 - x - 90$$

$$(x - \frac{10}{5})(x + \frac{9}{5})$$

$$(x - 2)(5x + 9)$$

7.  $3x^3 - 5x^2 + 2x$

$$x(x^2 - 5x + 6)$$

$$x(x - \frac{2}{3})(x - 3)$$

$$x(3x - 2)(x - 1)$$

8.  $9x^2 - 5x - 10$

Already Simplified

Solve each equation by factoring:

9.  $x^2 - 5x = 0$

$$x(x-5) = 0$$

$$x = 0 \quad x = 5$$

$x = \underline{0, 5}$

10.  $x^2 + x - 30 = 0$

$$(x+6)(x-5) = 0$$

$x = \underline{-6, 5}$

11.  $3x^2 - 5x = 0$

$$x(3x-5) = 0 \quad \frac{3x}{3} = \frac{5}{3}$$

$x = \underline{0, 5/3}$

12.  $4x^2 - 25 = 0$

$$(2x-5)(2x+5) = 0$$

$$2x = 5$$

$x = \underline{5/2, -5/2}$

13.  $4x^2 - 13x - 12 = 0$

$$x^2 - 13x - 48 = 0$$

$$(x-16)(x+3) = 0$$

$$(x-4)(4x+3) = 0$$

$x = \underline{4, -3/4}$

14.  $4x^2 - 17x + 4 = 0$

$$4x^2 - 17x + 4 = 0$$

$$x^2 - 17x + 16 = 0$$

$$(x-16)(x-1) = 0$$

$$(x-4)(4x-1) = 0$$

$x = \underline{4, 1/4}$

15.  $6x^2 + 7x = 3$

$$6x^2 + 7x - 3 = 0$$

$$x^2 + 7x - 18 = 0$$

$$(x+9)(x-2) = 0$$

$$(2x+3)(3x-1) = 0$$

$x = \underline{-3/2, 1/3}$

16.  $18x^2 - 34x + 16 = 0$

$$2(9x^2 - 17x + 8) = 0$$

$$2(x^2 - 17x + 72) = 0$$

$$2(x-9)(x-8) = 0$$

$$2(x-1)(9x-8) = 0$$

$x = \underline{1, 8/9}$