

Review: Factoring Activity (Due at the end of class)

Name: _____

Factor and Solve. Show all Work!

1. $x^2 - 7x + 12 = 0$

2. $4x^2 + 22x = -10$

3. $9x = 16x^3$

4. $6x^2 + 12x = 0$

5. $3x^3 + 19x^2 + 6x = 0$

6. $6x^2 + 21 = -45x$

7. $4x^2 + 40x = 44$

8. $15x^2 = 60x$

9. $16x^2 - 2x - 3 = 0$

10. $30x^3 - 15x = 69x^2$

11. $3x^3 - 21x^2 + 30x = 0$

12. $12x^3 + 4x - 19x^2 = 0$

Factor and Solve. Show all Work!

1. $x^2 - 7x + 12 = 0$ GCF: 1

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

$$x = 3, 4$$

2. $4x^2 + 22x = -10$ $4x^2 + 22x + 10 = 0$

GCF: 2 $2(2x^2 + 11x + 5) = 0$

$$2(2x + 1)(x + 5) = 0$$

$$x = -\frac{1}{2}, x = -5$$

3. $9x = 16x^3$ $16x^3 - 9x = 0$

$$x(16x^2 - 9) = 0$$

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

$$x = 0, \frac{3}{4}, -\frac{3}{4}$$

4. $6x^2 + 12x = 0$

$$6x(x+2) = 0$$

$$x = 0, -2$$

5. $3x^3 + 19x^2 + 6x = 0$

$$x(3x^2 + 19x + 6) = 0$$

$$x(3x + 1)(x + 6) = 0$$

$$x = 0, -\frac{1}{3}, -6$$

6. $6x^2 + 21 = -45x$

$$6x^2 + 45x + 21 = 0$$

$$3(2x^2 + 15x + 7) = 0$$

$$3(2x + 1)(x + 7) = 0$$

$$x = -\frac{1}{2}, -7$$

$$7. 4x^2 + 40x = 44$$

$$4x^2 + 40x - 44 = 0$$

$$4(x^2 + 10x - 11) = 0$$

$$4(x+11)(x-1) = 0$$

$$x = -11, 1$$

$$8. 15x^2 = 60x$$

$$15x^2 - 60x = 0$$

$$15x(x-4) = 0$$

$$x = 0, 4$$

$$9. 16x^2 - 2x - 3 = 0$$

$$(8x+3)(2x-1) = 0$$

$$x = -\frac{3}{8}, \frac{1}{2}$$

$$10. 30x^3 - 15x = 69x^2$$

$$30x^3 - 69x^2 - 15x = 0$$

$$3x(10x^2 - 23x - 5) = 0$$

$$3x(2x-5)(5x+1) = 0$$

$$x = 0, \frac{5}{2}, -\frac{1}{5}$$

$$11. 3x^3 - 21x^2 + 30x = 0$$

$$3x(x^2 - 7x + 10) = 0$$

$$3x(x-5)(x-2) = 0$$

$$x = 0, 5, 2$$

$$12. 12x^3 + 4x - 19x^2 = 0$$

$$x(12x^2 - 19x + 4) = 0$$

$$x(3x-4)(4x-1) = 0$$

$$x = 0, \frac{4}{3}, \frac{1}{4}$$