

CCGPS Analytic Geometry Factoring Practice Day 3

Factor each polynomial and solve

1. $5x^2 + 13x + 6 = 0$

2. $12x^3 = 12x$

3. $12x^2 - 2x - 30 = 0$

4. $4x^2 + 22x + 24 = 0$

5. $8x^3 - 6x^2 = 14x$

6. $9x^2 - 4 = 0$

$$7. 18x^2 - 15 = -39x$$

$$8. 4x^2 + 4x - 3 = 0$$

$$9. 2x^2 = -8x + 42$$

$$10. 6bx^2 + 7bx + 2b = 0$$

$$11. 4x^2 + 6x - 4 = 0$$

$$12. x^2 - x - 42 = 0$$

key

Thurs. 1/15/15

Factor each polynomial and solve

1. $5x^2 + 13x + 6 = 0$

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

$$x = -\frac{3}{5}, -2$$

2. $12x^3 = 12x$ $12x^3 - 12x = 0$

$$12x^2(x-1) = 0$$

$$12x(x+1)(x-1)$$

$$x = 0, -1, 1$$

3. $12x^2 - 2x - 30 = 0$

$$2(6x^2 - x - 15) = 0$$

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

$$x = \frac{5}{3}, -\frac{3}{2}$$

4. $4x^2 + 22x + 24 = 0$

$$2(2x^2 + 11x + 12) = 0$$

$$2(2x + 3)(x + 4) = 0$$

$$x = -\frac{3}{2}, -4$$

5. $8x^3 - 6x^2 = 14x$

$$2x(4x^2 - 3x - 7) = 0$$

$$2x(4x - 7)(x + 1) = 0$$

$$x = 0, \frac{7}{4}, -1$$

6. $9x^2 - 4 = 0$

$$9x^2 = 4$$

$$x = \pm \frac{2}{3}$$

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

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

$$7. 18x^2 - 15 = -39x$$

$$18x^2 + 39x - 15 = 0$$

$$3(6x^2 + 13x - 5) = 0$$

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

$$x = \frac{1}{3}, -\frac{5}{2}$$

$$8. 4x^2 + 4x - 3 = 0$$

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

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

$$9. 2x^2 = -8x + 42$$

$$2x^2 + 8x - 42 = 0$$

$$2(x^2 + 4x - 21) = 0$$

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

$$x = -7, x = 3$$

$$10. 6bx^2 + 7bx + 2b = 0$$

$$b(6x^2 + 7x + 2) = 0$$

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

$$x = -\frac{2}{3}, -\frac{1}{2} \quad b = 0$$

$$11. 4x^2 + 6x - 4 = 0$$

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

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

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

$$12. x^2 - x - 42 = 0$$

$$(x - 7)(x + 6) = 0$$

$$x = 7, x = -6$$