

Answers: Systems of Polynomials (no FoA)

1) $\{(0,3), (2, -1), (1, 1)\}$

2) $\{(0, 0), (-2, -6), (2, 6)\}$

3) $\{(\underline{1/2}, -24), (\underline{-5/2}, 0), (\underline{5/2}, 0)\}$

4) $\{(6, 24), (-2, -8)\}$

5) $\{(-1, 9), (1, 9)\}$

6) No Solution

7) $(3, 330)$

8) $\{(-0.422, -0.789), (.623, -1.312), (3.799, -2.900)\}$

Notes #2
 $\{(2/3, -4/3), (-3, 6)\}$

9a. $A(x) = x^4 + 15x^3 + 8x^2 - 84x$ () ()

9b. **length:** 28 ft **width:** 36 ft $x=4$

10a. $V(x) = -x^3 + 3x^2 + 54x - 112$

10b. **max volume:** 109.64 cubic units

length: 3.36 **width:** 12.26 **height:** 2.64

10c. $2 < x < 8$

11a. $2x(x + 5) = 408$

11b. $x = 12$ & -17

so the 2 #s are **17 & 24** or **-34 & -12**

$$3. \quad y = 8x^3 - 50x$$

$$y = 4x^2 - 25$$

$$8x^3 - 50x = 4x^2 - 25$$

$$(8x^3 - 4x^2) - 50x + 25 = 0$$

$$4x^2(2x-1) - 25(2x-1) = 0$$

$$(2x-1)(4x^2 - 25) = 0$$

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

$$\left(\frac{1}{2}, \quad \right) \left(\frac{5}{2}, \quad \right) \left(-\frac{5}{2}, \quad \right)$$

$$2. \quad \frac{3x}{-3x} = x^3 - \frac{x}{-3x}$$

$$0 = x^3 - 4x$$

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

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

$$(0,) (2,) (-2,)$$