Algebra 2   Bellwork   Tuesday, January 5, 2016

1. Find the solutions to this equation by graphing.

$$x^4 + 5x^2 + 6 = 4x^3 + 8x$$

2. Find ALL solutions by factoring.

a) $2x^4 - 4x^3 + 10x^2 - 20x = 0$
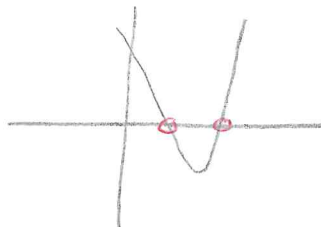
b) $3x^6 - 3x^4 - 60x^2 = 0$

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(ANSWERS)

1. Find the solutions to this equation by graphing.

$$x^4 + 5x^2 + 6 = 4x^3 + 8x$$

$$x^4 - 4x^3 + 5x^2 - 8x + 6 = 0 \longrightarrow$$

Graph & find zeros (x-int)

$$\boxed{x = 1, 3}$$

2. Find ALL solutions by factoring.

a) $2x^4 - 4x^3 + 10x^2 - 20x = 0$

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

	x	-2
x^2	x^3	$-2x^2$
$+5$	$+5x$	-10

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

$$\boxed{x = 0, 2 \pm i\sqrt{5}}$$

b) $3x^6 - 3x^4 - 60x^2 = 0$

$$3x^2(x^4 - x^2 - 20) = 0$$

$$3x^2(x^2 - 5)(x^2 + 4) = 0$$

$$\boxed{x = 0, \pm\sqrt{5}, \pm 2i}$$

-20
$-5 \quad +4$
-1