Algebra 2   Bellwork   Friday, December 18, 2015

1. Graph this polynomial and state all Absolute and Relative Extrema, if any. Round to the nearest hundredth.

$$y = -0.1x^4 - x^3 - 2x^2 + 4x + 6$$

2. Find all zeros, real and imaginary, by factoring.

a) $y = 2x^3 - x^2 + 18x - 9$

b) $y = 6x^7 - 30x^5 + 24x^3$

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1. Graph this polynomial and state all Absolute and Relative Extrema, if any. Round to the nearest hundredth.
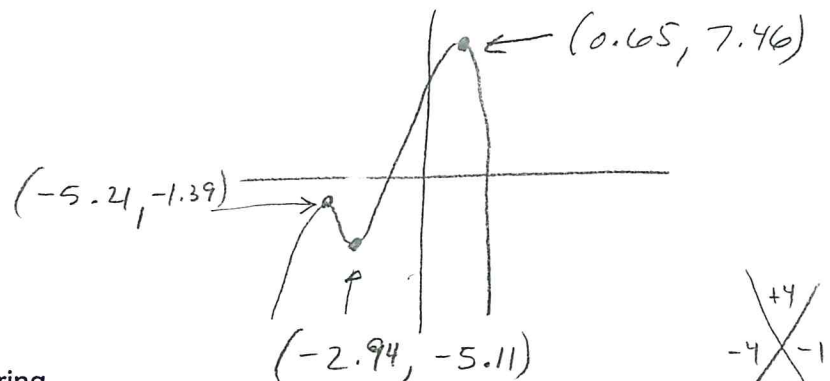
$$y = -0.1x^4 - x^3 - 2x^2 + 4x + 6$$

ABS MAX : 7.46

ABS MIN : NONE

REL MAX : -1.39

REL MIN : -5.11

$\leftarrow (0.65, 7.46)$

$(-5.24, -1.39)$

$(-2.94, -5.11)$

2. Find all zeros, real and imaginary, by factoring.

a) $y = 2x^3 - x^2 + 18x - 9$

$= (2x-1)(x^2+9)$

$x^2+9=0$

$\sqrt{x^2} = \sqrt{-9}$

	$2x$	-1
x^2	$2x^3$	$-x^2$
$+9$	$+18x$	-9

$X = \frac{1}{2}, \pm 3i$

b) $y = 6x^7 - 30x^5 + 24x^3$

$= 6x^3(x^4 - 5x^2 + 4)$

$= 6x^3(x^2-4)(x^2-1)$

$= 6x^3(x \pm 2)(x \pm 1)$

$X = 0, \pm 2, \pm 1$

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