

Bellwork Alg 2A Wednesday, April 19, 2017

1. Find the coordinates of all extrema for the polynomial, if any. Round to the nearest hundredth.

$$y = 3x^4 + 5.88x^3 - 3.1791x^2 - 5.8782x$$

Abs Max:

Abs Min:

Rel Max:

Rel Min:

2. Find all the real zeros of this polynomial: $y = 4x^3 - 14x^2 - 3x + 27$

3. Find all real and imaginary zeros by factoring: $y = 4x^6 - 8x^4 - 96x^2$

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Answers

1. Find the coordinates of all extrema for the polynomial, if any. Round to the nearest hundredth.

$$y = 3x^4 + 5.88x^3 - 3.1791x^2 - 5.8782x$$

Abs Max: **NONE**

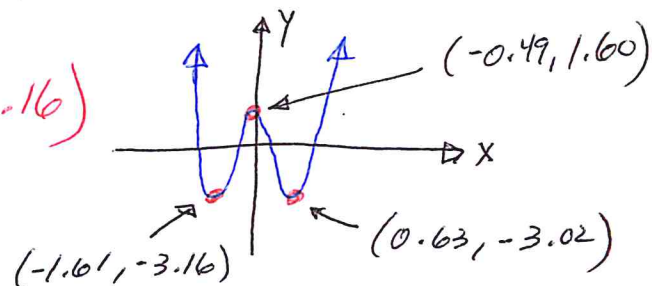
Abs Min: **$(-1.61, -3.16)$**

Rel Max:

Rel Min:

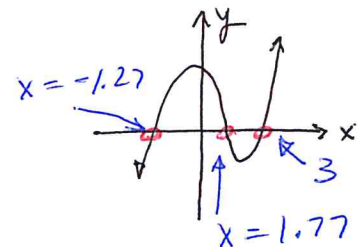
$(-0.49, 1.60)$

$(0.63, -3.02)$



2. Find all the real zeros of this polynomial: $y = 4x^3 - 14x^2 - 3x + 27$

$$x = -1.27, 1.77, 3$$



3. Find all real and imaginary zeros by factoring: $y = 4x^6 - 8x^4 - 96x^2$

$$\begin{aligned} x^2 - 6 &= 0 & x^2 + 4 &= 0 \\ \sqrt{x^2} &= \sqrt{6} & \sqrt{x^2} &= \sqrt{-4} \\ x &= \pm\sqrt{6} & x &= \pm 2i \end{aligned}$$

$$\begin{array}{c} -24 \\ \times \\ -6 \quad 4 \\ -2 \end{array}$$

$$4x^2(x^4 - 2x^2 - 24) = 4x^2(x^2 - 6)(x^2 + 4)$$

$$x = 0, \pm\sqrt{6}, \pm 2i$$