

1. Use this equation: $y = 4x^3 - 14.4x^2 - 3x + 34.5$ Find the following:

a. Coordinates of ALL extrema and state what type.

b. All real zeros.

2. Find ALL zeros of each by factoring.

a) $y = 3x^4 - 24x^3 + 48x^2$

b) $y = 2x^5 - 2x^3 - 12x$

Bellwork Hon Alg 2 Wednesday, December 14, 2016

1. Use this equation: $y = 4x^3 - 14.4x^2 - 3x + 34.5$ Find the following:

a. Coordinates of ALL extrema and state what type.

ABS MAX - NONE

ABS MIN - NONE

REL MAX: $(-0.10, 34.65)$

REL MIN: $(2.50, -0.5)$

b. All real zeros.

$$x = -1.39, 2.32, 2.68$$

2. Find ALL zeros of each by factoring.

a) $y = 3x^4 - 24x^3 + 48x^2$

$$= 3x^2(x^2 - 8x + 16)$$

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

$$\begin{array}{r} 16 \\ -4 \quad -4 \\ \hline -8 \end{array}$$

Zeros: 0, 4
Both are double zeros

b) $y = 2x^5 - 2x^3 - 12x$

$$2x(x^4 - x^2 - 6)$$

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

$$\begin{array}{r} -6 \\ -3 \quad +2 \\ \hline -1 \end{array}$$

Zeros: $0, \pm\sqrt{3}, \pm i\sqrt{2}$

$$x^2 - 3 = 0$$

$$x^2 = 3$$

$$x = \pm\sqrt{3}$$

$$x^2 + 2 = 0$$

$$x^2 = -2$$

$$x = \pm i\sqrt{2}$$

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Answers

