Class Work: due tomorrow ☺

Kuta Software - Infinite Algebra 2 Name_____

Vertex Form of Parabolas 1-10: Pick 8

Date_____ Period____

Use the information provided to write the vertex form equation of each parabola.

* For each problem also state the vertex, axis of symmetry & min or max value.

1) $y = x^2 + 16x + 71$

2) $y = x^2 - 2x - 5$

3) $y = -x^2 - 14x - 59$

4) $y = 2x^2 + 36x + 170$

5) $y = x^2 - 12x + 46$

6) $y = x^2 + 4x$

7) $y = -\frac{1}{3}(x - 3)(x - 7)$

8) $y + 60x + 294 = -3x^2$

9) $-(y + 1) = (x - 4)^2$

10) $y = -2(x + 4)(x - 2)$

Name_____

Graphing Polynomial Functions: Basic Shape

Date_____ Period____

Describe the end behavior of each function. AU

1) $f(x) = x^3 - 4x^2 + 7$

Ex. falls to left
rises to right

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

3) $f(x) = x^3 - 9x^2 + 24x - 15$

4) $f(x) = x^2 - 6x + 11$

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

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

7) $f(x) = 2x^2 + 12x + 12$

8) $f(x) = x^2 - 8x + 18$

State the maximum number of turns the graph of each function could make.

9) $f(x) = x^5 - 4x^3 + 5x + 1$ Deg = 5

Ex. Max # of turns: 4

10) $f(x) = -x^2 - 1$

11) $f(x) = x^4 - 4x^2 + x - 1$

12) $f(x) = x^4 - 3x^2 + x - 3$

13) $f(x) = x^3 - 4x^2 + 4$

14) $f(x) = -x^4 + 4x^2 + 3x - 1$

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You may use the back for scratch work if needed.

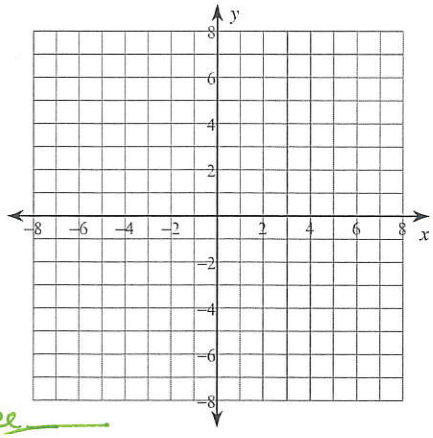
Name_____

Graphing Polynomial Functions

Date_____ Period____

State the maximum number of turns the graph of each function could make. Then sketch the graph. State the number of real zeros. Approximate each zero to the nearest tenth. Approximate the relative minima and relative maxima to the nearest tenth.

1) $f(x) = x^2 + 2x - 5$

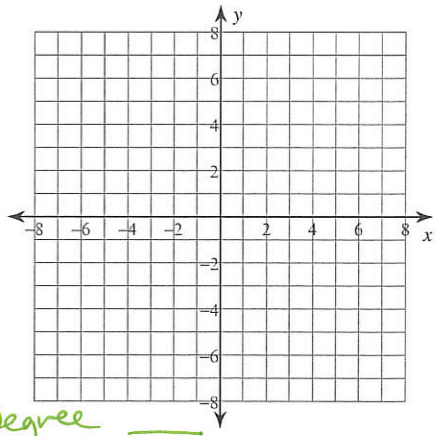


Degree____

# of turns____

zeros_____

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

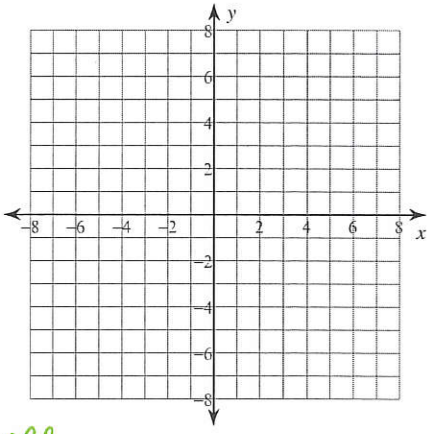


Degree____

# of turns____

zeros_____

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

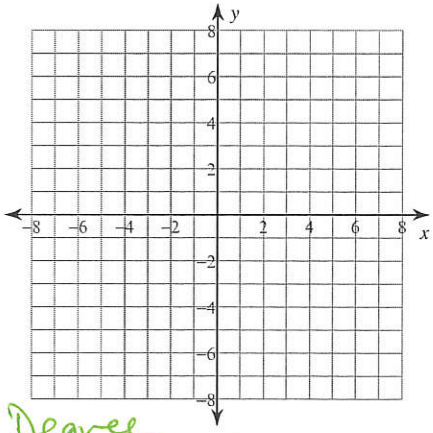


Degree____

# of turns____

zeros_____

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



Degree____

# of turns____

zeros_____