Algebra 2 Name_____ ID: 1

Quiz 5-1 & 5-2 Review

Date_____ Period____

Describe the end behavior of each function.

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

2) $f(x) = x^3 - 9x^2 + 24x - 23$

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

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

Find all zeros.

5) $f(x) = 2x^3 - 9x^2 + 4x$

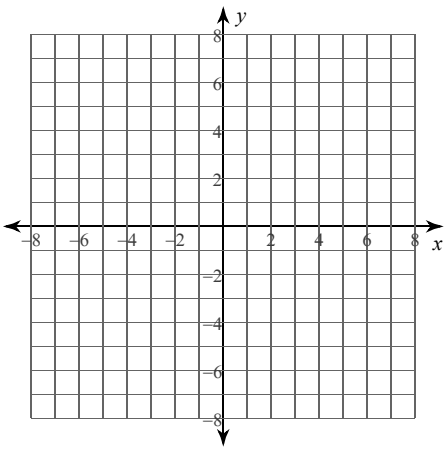
6) $f(x) = 2x^3 + 10x^2 + 11x$

7) $f(x) = 3x^3 - 7x^2 - 5x$

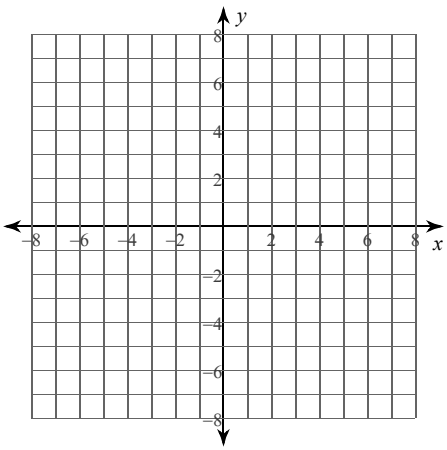
8) $f(x) = x^3 + 5x^2 - x$

Sketch the graph of each function. Approximate the relative minima and relative maxima to the nearest tenth.

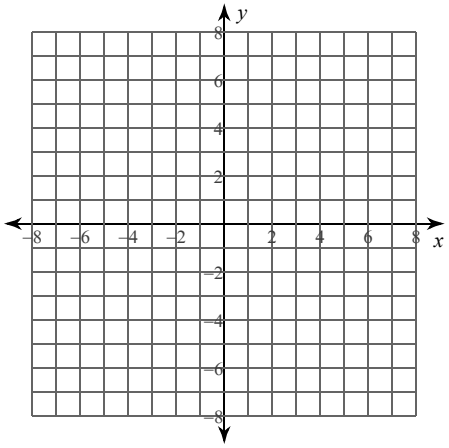
9) $f(x) = x^4 - 3x^2 + 3x + 1$



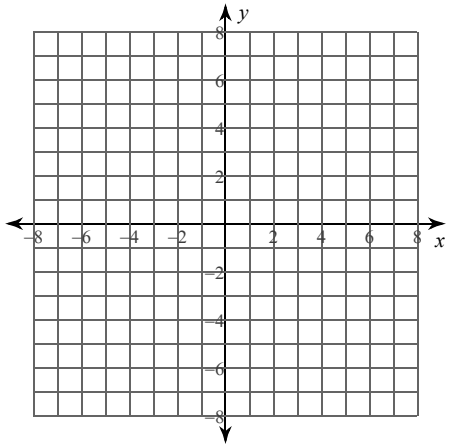
10) $f(x) = x^4 - x^2 - x + 4$



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



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



Write a polynomial function of least degree with integral coefficients that has the given zeros.

13) 3, $\sqrt{7}$, $-\sqrt{7}$

14) 3, $\sqrt{5}$

15) –4, 1, –3

16) –1, $1 + \sqrt{2}$, $1 - \sqrt{2}$