Exam

Name_____

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

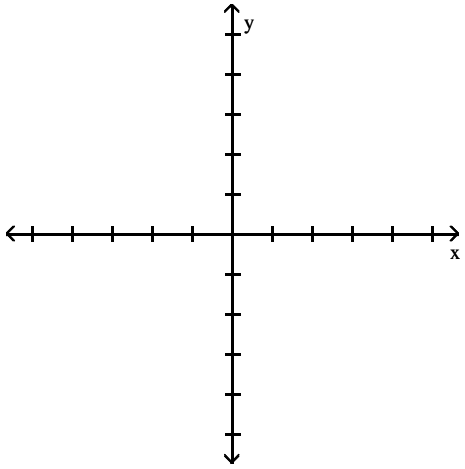
Solve the polynomial equation. In order to obtain the first root, use synthetic division to test the possible rational roots.

1) $x^4 + 2x^3 - 12x^2 - 10x + 3 = 0$ 1) _____

2) $x^3 - 5x^2 + 17x - 13 = 0$ 2) _____

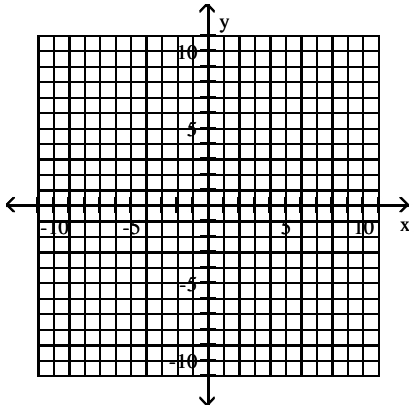
Graph the polynomial function.

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

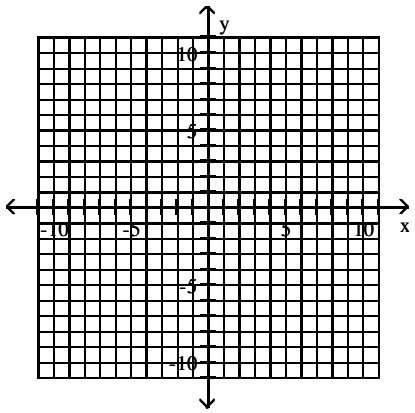


Use the vertex and intercepts to sketch the graph of the quadratic function.

4) $y - 4 = (x - 5)^2$ 4) _____

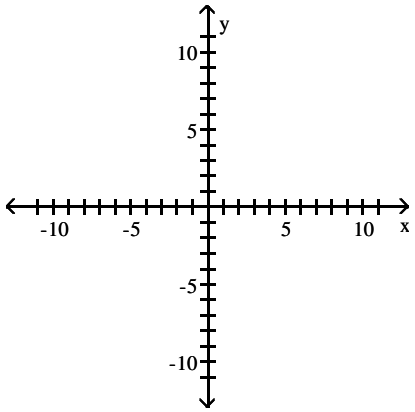


5) $f(x) = x^2 + 6x + 5$ 5) _____



Graph the rational function.

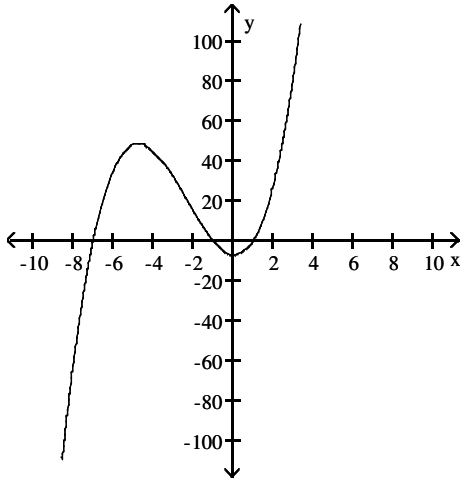
6) $f(x) = \frac{4x^2}{x^2 - 9}$ 6) _____



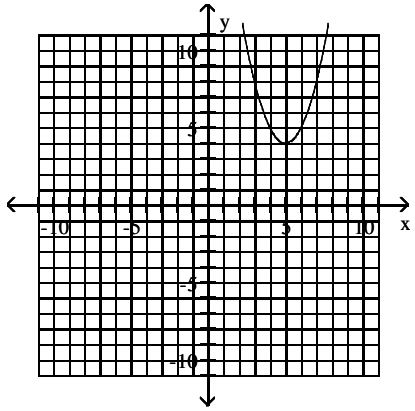
1) $\{-1, 3, -2 + \sqrt{5}, -2 - \sqrt{5}\}$

2) $\{1, 2 + 3i, 2 - 3i\}$

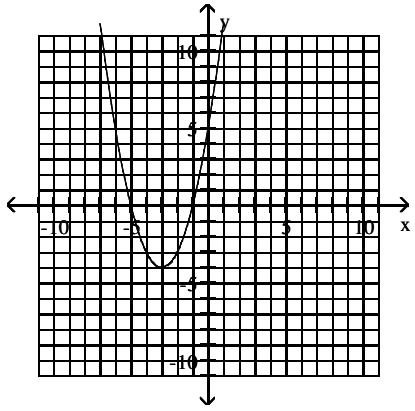
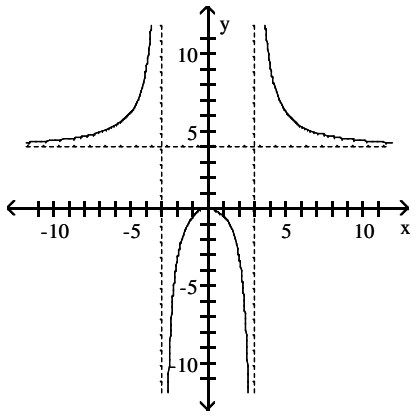
3)



4)



5)



6)