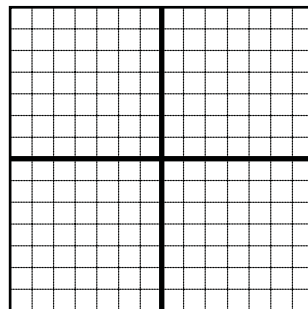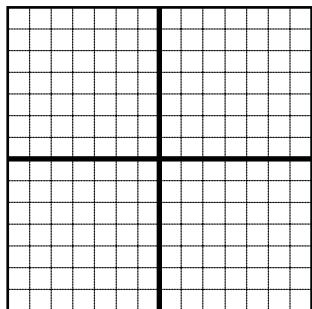Name _____ Per. _____ Date_____ Score _____

Cumulative Take-Home Quiz C

Graph the following functions. Be sure to include the intercepts and any other important points.

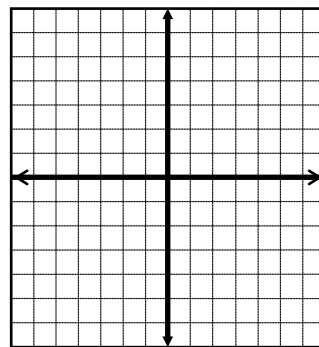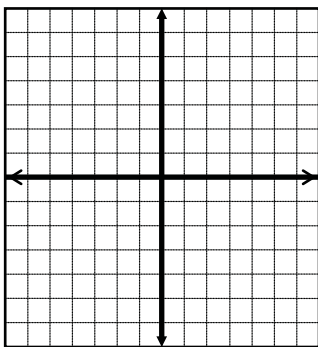1) $f(x) = -x^2 + 4x + 3$ 2) $f(x) = 2(x+1)^2 - 3$

3) $g(x) = \dfrac{1}{6}(x+2)(x-1)(x-3)^2$ 4) $g(x) = x^4 - 10x^2 + 9$

Find the zeros of the following functions.

5) $f(x) = 4x^2 - 2x + 3$ 6) $f(x) = x^3 + x^2 - 2$

Write a function with the following properties.

7) A parabola with pts. (1, -2), (0, -4) and (-2,4)   **8)** A polynomial with zeros 2 and $3-2i$.

Find the time for each given height in the function $h(t) = -4t^2 + 64t + 80$. **Round any decimals to the nearest tenth.**

9) Maximum height

10) $height = 20$ ft

Jeremy wants to fence in a rectangular field for his pet pig using 600 feet of fencing he has stored in his shed. On one side is a cement wall that will not be fenced in.

11) Write a quadratic function describing the area. **12)** Find the maximum area.