Algebra II   Name _____

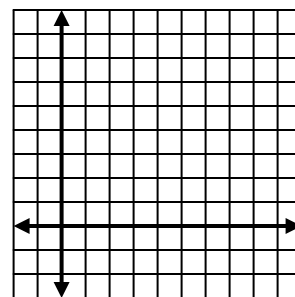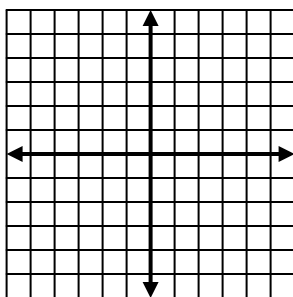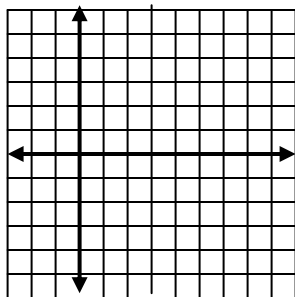Review Section 8-1 & 9-3   Form A15

Graph each radical function on the graph provided. You must show an x/y-chart for each with a minimum of four points, but you may only use one decimal per problem.

1) $y = \sqrt{x} - 4$ 2) $y = -\sqrt{x+6}$ 3) $y > 2\sqrt{x-1} + 3$

List the domain and range for each of the graphs above.

4)   D: _____   5)   D: _____   6)   D: _____

      R: _____   R: _____   R: _____

Find the domain and range for the following functions. You do not need to graph them.

7) $f(x) = \sqrt{3x-4}$ D: _____   8) $f(x) = 6 - 3\sqrt{2x+8}$ D: _____

                      R: _____   R: _____

Find the vertical asymptotes and holes for each rational function. If one does not exist, leave it blank.

9) $f(x) = \dfrac{x^2 + 6x}{x+6}$ 10) $f(x) = \dfrac{10}{x^2 - 9x + 18}$ 11) $f(x) = \dfrac{2x+1}{2x^2 - 7x - 4}$

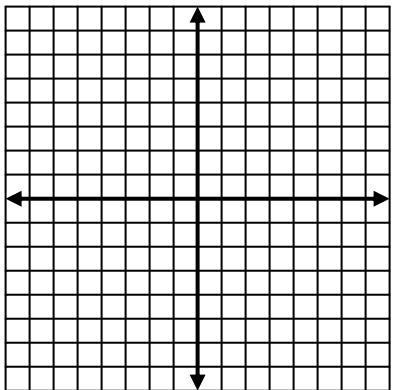Asymptote(s): _____   A: _____   A: _____
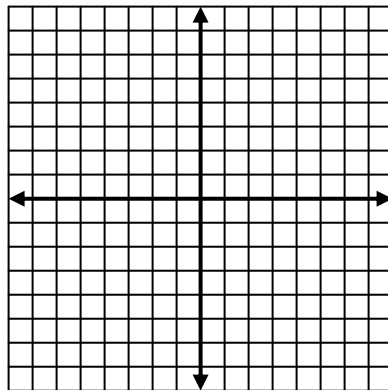
Hole(s): _____   H: _____   H: _____

Graph each rational function. Make sure to identify all asymptotes (both vertical and horizontal) with dashed lines. If an axis is also an asymptote, you do not need to show a dashed line.
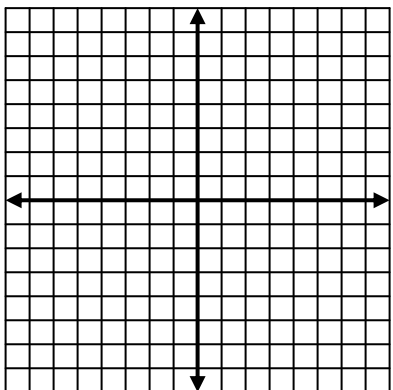
12) $y = \dfrac{-2}{x-1}$

13) $f(x) = \dfrac{x^2 + 3x}{x+3}$

14) $f(x) = \dfrac{4x}{x-2}$

15) $y = \dfrac{x}{x^2 + x - 6}$