Algebra 2 skills check
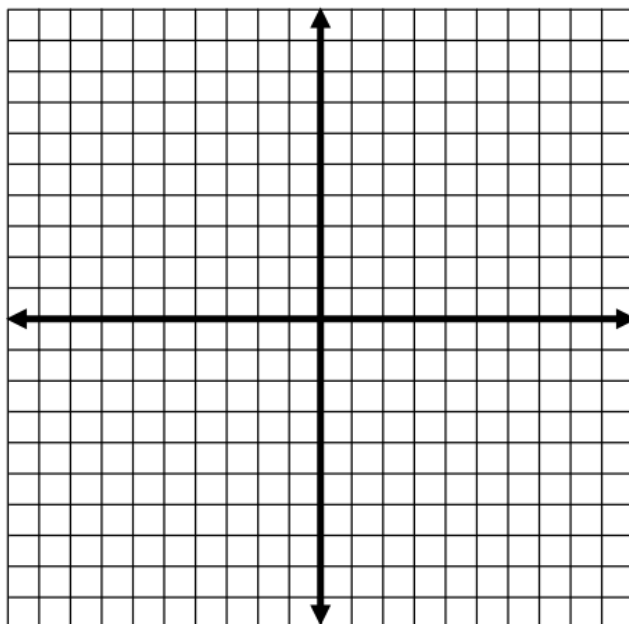
Graph the following quadratic function without a calculator

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

a.   State the domain & range of the function and describe its end behavior

b.   What are the coordinates of the vertex of the function

c.   What is/are the coordinate(s) of the x intercept(s) of the function

d.   What is/are the coordinate(s) of the y intercept(s) of the function

e.   Describe the transformations present for this function compared to the parent function

Algebra 2 skills check

Solve the following equations by factoring

1) $x^2 - 11x + 19 = -5$

2) $7r^2 - 14r = -7$

3) $3x^2 - 8x + 4 = 0$

Solve the following equations (use any method)

4) $5 = \sqrt{r - 3}$

5) $\frac{3}{4}x + \frac{3}{2}x = \frac{9}{4}$

6) $x^3 + 5x^2 - 6x - 30 = 0$

7) Simplify the following expression $\sqrt{96}$