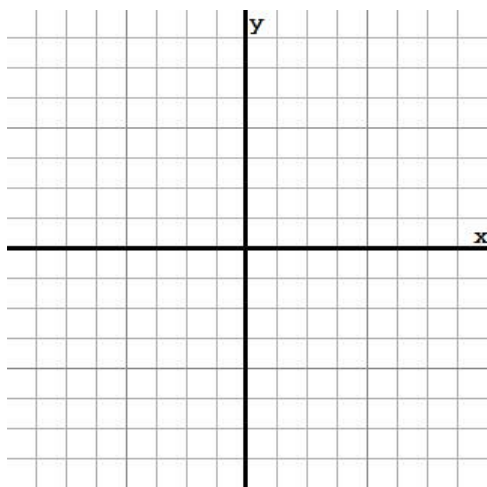
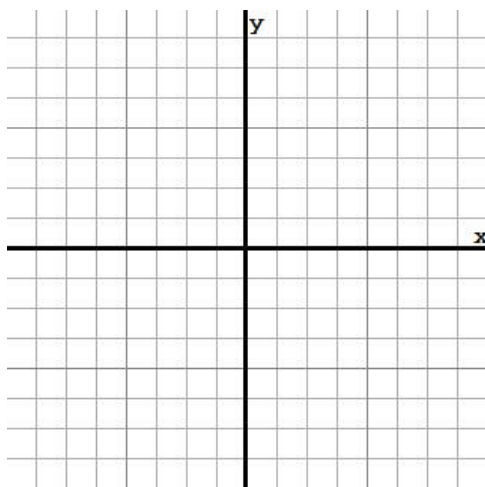


Quiz 9

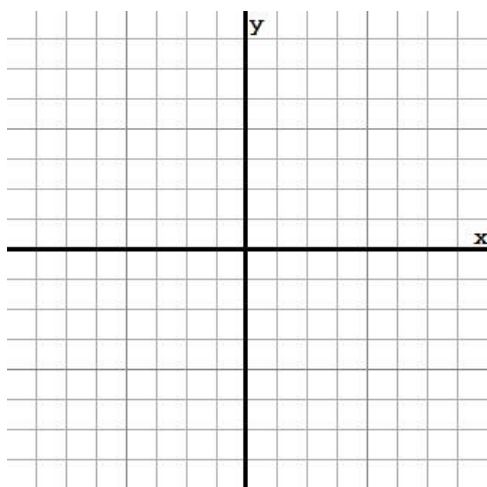
1. Sketch the graph of $f(x) = -2(x - 1)^2 + 3$ by performing the translations one at a time. At each step, write the function of the graph you are sketching.



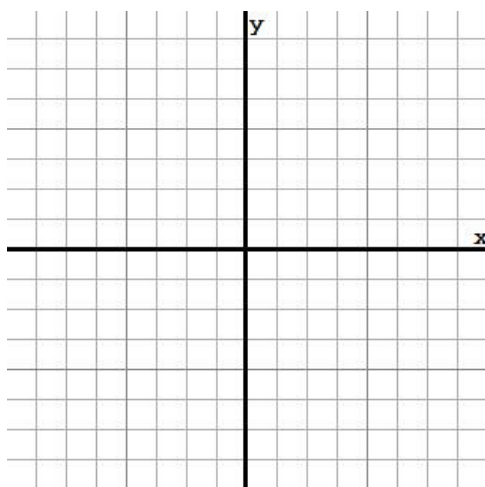
$$\underline{-x^2}$$



$$\underline{-2x^2}$$



$$\underline{-2x^2 + 3}$$



$$\underline{-2(x - 1)^2 + 3}$$

2. Convert $f(x) = -2x^2 - 8x + 5$ to vertex form (i.e. $a(x - h)^2 + k$ form).

3. The function $h(t) = -t^2 + 20t + 25$ represents the height (in feet) of a particular object t seconds after it is thrown.

- a. What is the initial height of the object (i.e. the height of the object before it is thrown)?
- b. When does the object reach maximum height? What is this height?
- c. When does the object hit the ground?