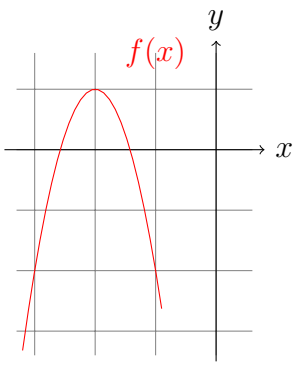
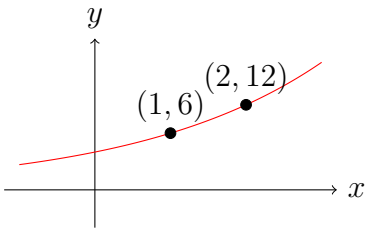
Name: _____ *Student ID Number:* _____

Spring 2022 Math 5A Worksheet 1 Solution

1. Sketch the graph of the curve $y = -3(x+2)^2 + 1$ using graph transformations.



2. Find the exponential function $f(x) = Cb^x$ whose graph is given



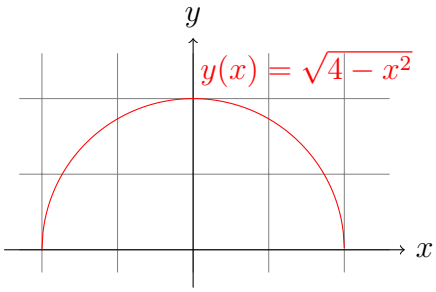
We have the following system of equations:

$$\begin{cases} 6 = f(1) & = C \cdot b^1 \\ 12 = f(1) & = C \cdot b^2 \end{cases} \Rightarrow 2 = \frac{12}{6} = \frac{C \cdot b^2}{C \cdot b^1} = b \Rightarrow b = 2 \text{ and } C = 3.$$

3. Find the domain and range of the following function, and sketch it

$$y(x) = \sqrt{4 - x^2}$$

(*Hint*: $y^2 + x^2 = 4$.)



Domain: $[-2, 2]$. Range: $[0, 2]$.