Spring 2020 Math 2 Quiz 7-8 due 03/16/20:9.40am Name: _____

Show your work neatly, clearly, systematically, and understandably.

1. (8: 1,1,1,1,1,2,2) Let $f(x)=3-2\sqrt{x+4}$. Find

   a. Domain (in interval notation)

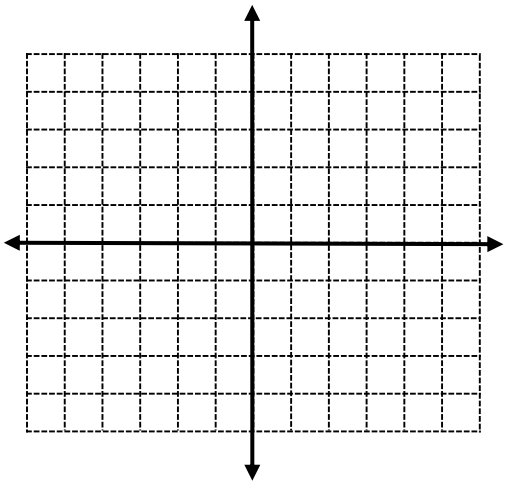
   b. Range (in interval notation)

   c. "Vertex"

   d. Y-intercept

   e. X-intercept

   f. Graph accurately:



2. (8: 1,1,1,1,1,2,2) Let $f(x)=-\frac{1}{2}|x-2|+1$. Find

   a. Domain (in interval notation)

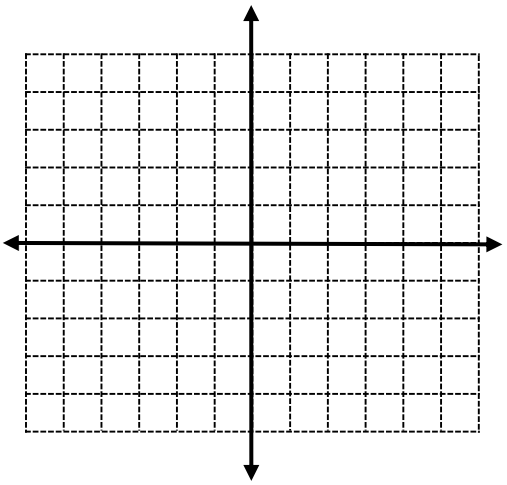
   b. Range (in interval notation)

   c. Vertex

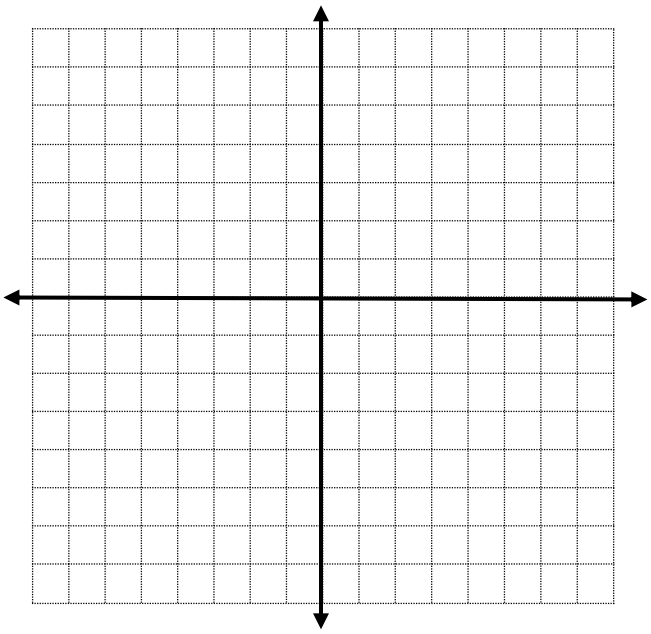
   d. Y-intercept

   e. X-intercept

   f. Graph accurately:



3. (3) Graph: $f(x)=\begin{cases}(x+2)^2 & \text{if } x<0\\ -2x+3 & \text{if } 0\le x<3\\ x-1 & \text{if } x\ge 3\end{cases}$



4. (3) Find the difference quotient of $f(x)=\dfrac{2}{2x+3}$.

Note: $DQ_f=\dfrac{f(x+h)-f(x)}{h}$.