Quiz #2 Math 1060Q September 22, 2014

Name: _____ Section: _____

You have 12 minutes to complete the quiz. Please **show all work**, and then **write your answer on the line provided.**

1. Let $f(x) = x^2 + 6x + 8$

   (a) Complete the square to rewrite $f(x)$ in the form $f(x) = a(x-h)^2 + k$.

$f(x) = (x^2 + 6x + \underline{9}) - \underline{9} + 8$

$\frac{6}{2} = 3$ $= (x + \boxed{3})(x + \boxed{3}) - \underline{9} + 8$ 2pt

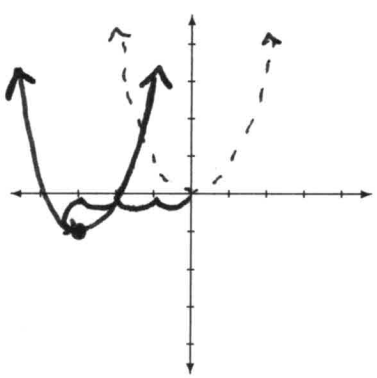
$= (x+3)^2 - 1$ 1pt

Answer: $f(x) = (x+3)^2 - 1$

   (b) Sketch the graph of $y = f(x)$.

x^2 moved left 3 down 1

1pt



   (c) Give the coordinates of the vertex. Is this a maximum or minimum value?

vertex is at $(-3,-1)$

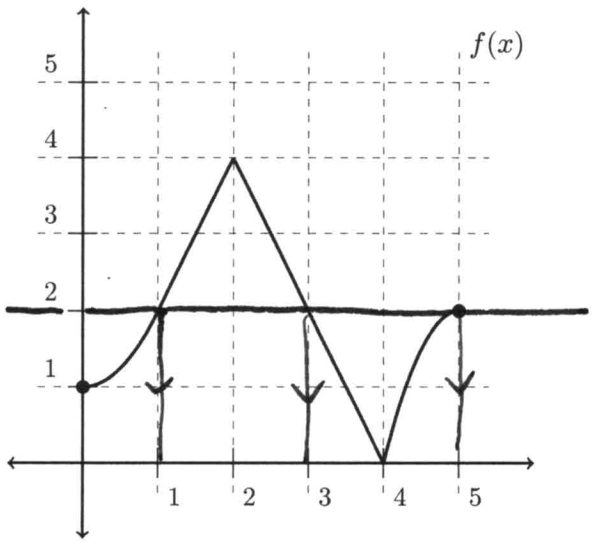
1pt it is a minimum.

Answer: _____

QUIZ CONTINUED ON BACK.

Name: _____ Section: _____

2. (4 points) The graph of a function f is given below.



(a) What is $f(2)$?

1pt $f(2) = 4$

(b) For what x is $f(x) = 2$?

2pt $f(x) = 2$ when $x =$ 1, 3, and 5

(c) For what x is $f(x) < 2$?

1pt $f(x) < 2$ on $[0, 1) \cup (3, 5)$

(d) What is the domain and range of f?

1pt Domain: $[0, 5]$

Range: $[0, 4]$