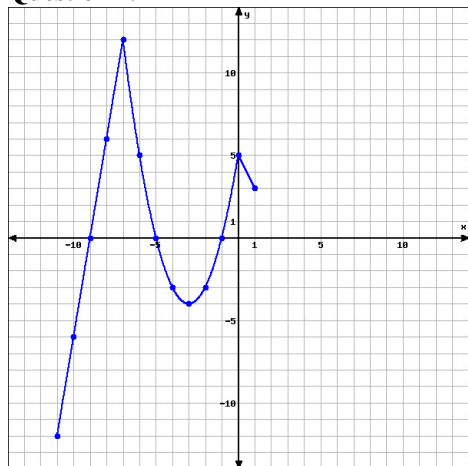**Name:** _____

Quiz 7

This quiz is graded out of 14 marks. No books, watches, notes or cell phones are allowed. You must show all your work, the correct answer is worth 1 mark the remaining marks are given for the work. If you need more space for your answer use the back of the page.

Question 1. *(3 marks)* Find x if the distance between $(x,1)$ and $(2,5)$ is $2\sqrt{10}$.

Question 2. *(1 mark)* Find the center of the circle given the 2 endpoints of a diameter: $(-8,2)$ and $(2,4)$

Question 3. *(1 mark)* Find the radius of the circle whose equation is: $(x-3)^2 + y^2 = 20$

Question 4.

Given the graph of $y = f(x)$.

  a. *(1 mark)* State the domain of $f(x)$.

  b. *(1 mark)* State the range of $f(x)$.

  c. *(1 mark)* Determine $f(-6)$.

  d. *(1 mark)* Determine all x such that $f(x) = 0$.

Question 5. *(5 marks)* Given $f(x) = \frac{x}{x+1}$, simplify completely the following expression $\frac{f(x+h)-f(x)}{h}$.