Name _____

Homework 2
Section 2.1

1. (2) Use the function $g(x) = \sqrt{100 - x^2}$ to evaluate

   (a) $g(6)$

   (b) $g(-3)$

2. (4) Given the function $n(x) = \begin{cases} 5 & x < -3 \\ x + 8 & -3 \leq x \leq 3 \\ x^2 - 4 & x > 3 \end{cases}$, evaluate each of the following:

   (a) $n(-4)$

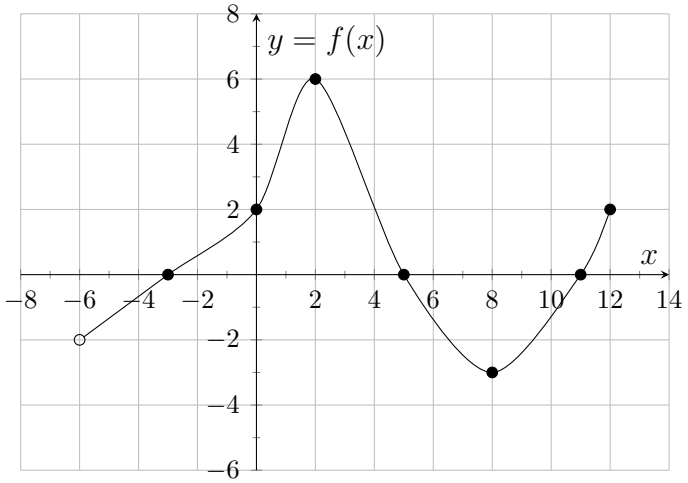
   (b) $n(-2)$

   (c) $n(3)$

   (d) $n(6)$

3. (6) Consider the function $f(x) = x^2 - 2x + 3$. Compute (and simplify) the quantity $f(x+h) - f(x)$.

4. (8) Use the graph of the function $y = f(x)$ shown below to determine the following:



(a) $f(2) =$ $f(4) =$

(b) On what interval(s) is $f(x)$ positive?

(c) What is the domain of $f(x)$?

(d) What is the range of $f(x)$?