

3.3 Corrective Assignment – Piecewise Functions

Name: _____

Pre-Calculus

Find the value of the given function at the indicated domain value.

$$g(x) = \begin{cases} x^2 + 2x - 5, & x < -3 \\ 4 - x^3, & -3 \leq x < 9 \\ 2 + \sqrt{x-9}, & x > 9 \end{cases}$$

$$h(x) = \begin{cases} -x^2 - 4x + 8, & x \leq -5 \\ 2x^3, & -5 < x < 0 \\ |7 - x| + 11, & x \geq 0 \end{cases}$$

1. $g(-3) =$

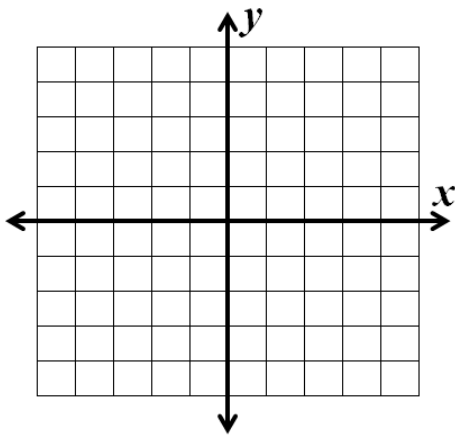
2. $h(-7) =$

3. $h(0) =$

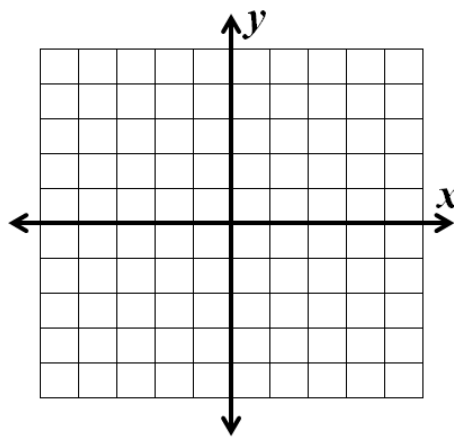
4. $g(9) =$

Graph the following piecewise functions.

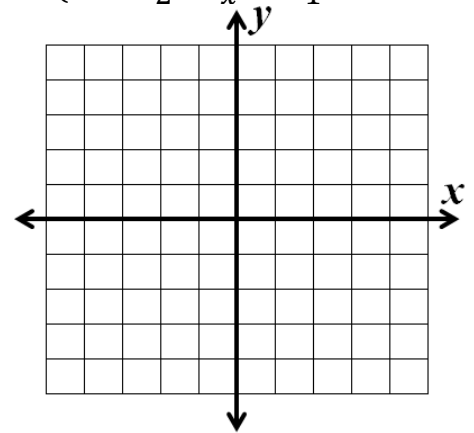
5. $f(x) = \begin{cases} |x + 3|, & x \leq -2 \\ x + 1, & -2 < x \leq 3 \\ -x + 5, & x > 3 \end{cases}$



6. $h(x) = \begin{cases} \frac{3}{2}x + 2, & x \leq -1 \\ x^2 - 5, & -1 < x \leq 3 \\ -|x - 4| + 1, & x > 3 \end{cases}$



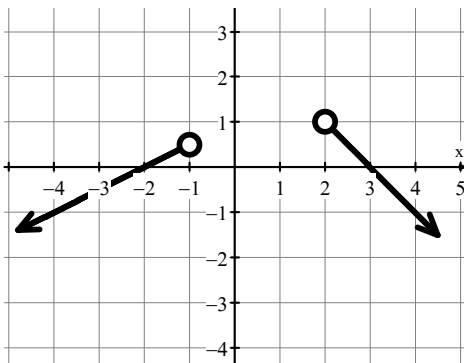
7. $g(x) = \begin{cases} 5, & x < -4 \\ -x + 1, & -4 \leq x < -1 \\ x + 3, & -1 < x \leq 2 \\ 5, & x > 2 \\ -2, & x = -1 \end{cases}$



Given the graph of f , write out the function's equation.

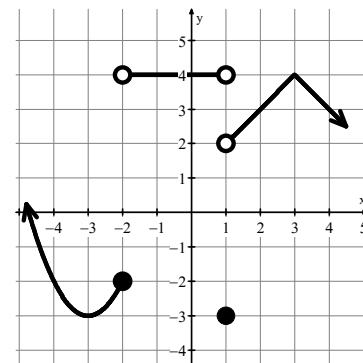
8.

$f(x) =$



9.

$f(x) =$



Tell if the function is continuous. Show any work that leads to your conclusion.

10. $h(x) = \begin{cases} 7 - x, & x < -4 \\ 3x + 21, & x \geq -4 \end{cases}$

11. $g(x) = \begin{cases} x - 9, & x < 3 \\ x - x^2, & x > 3 \\ -6, & x = 3 \end{cases}$

ANSWERS to 3.3 Corrective Assignment

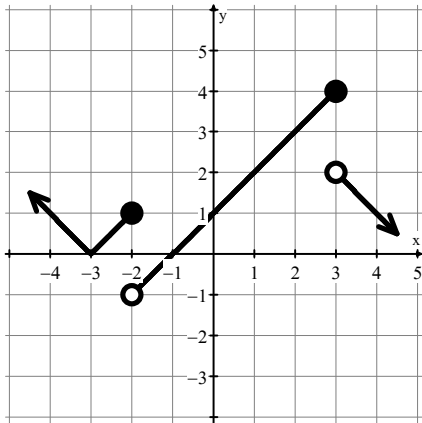
1. 31

2. -13

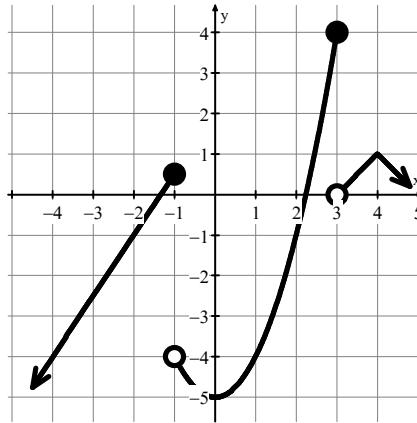
3. 18

4. Undefined

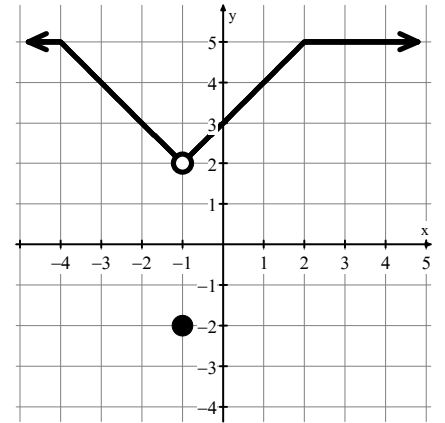
5.



6.



7.



$$8. f(x) = \begin{cases} \frac{1}{2}x + 1, & x < -1 \\ -x + 3, & x > 2 \end{cases}$$

$$9. f(x) = \begin{cases} (x + 3)^2 - 3, & x \leq -2 \\ 4, & -2 < x < 1 \\ -3, & x = 1 \\ -|x - 3| + 4, & x > 1 \end{cases}$$

10. Not continuous

11. Continuous