Math III   Name_____ ID: 1

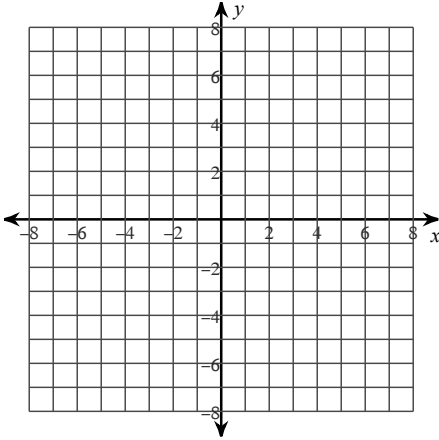# Piece-Wise Function Practice
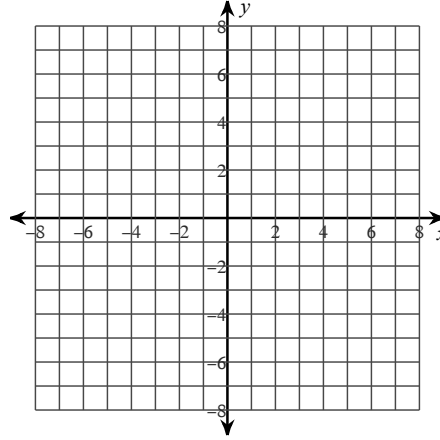
Date_____ Period_____

Sketch the graph of each function. Then state if the function is continuous.

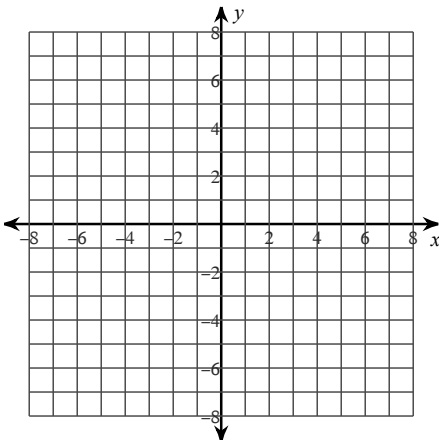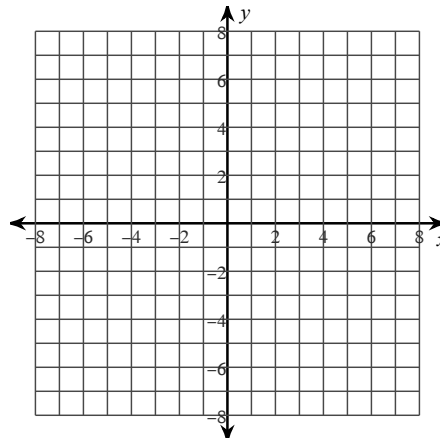1) $w(x) = \begin{cases} -2x - 1, & x \le 0 \\ (x-1)^3, & x > 0 \end{cases}$

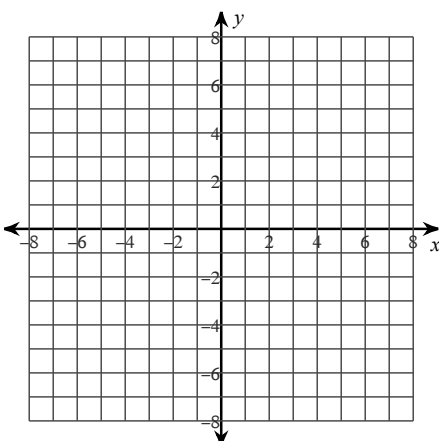2) $w(x) = \begin{cases} \sqrt{x}, & x < 4 \\ 2, & x \ge 4 \end{cases}$

3) $g(x) = \begin{cases} 2x + 1, & x < 2 \\ |x - 3|, & x \ge 2 \end{cases}$
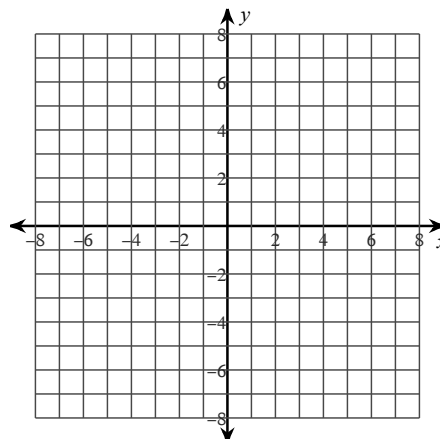
4) $w(x) = \begin{cases} (x+5)^2, & x \le -4 \\ (x+3)^2, & x > -4 \end{cases}$

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

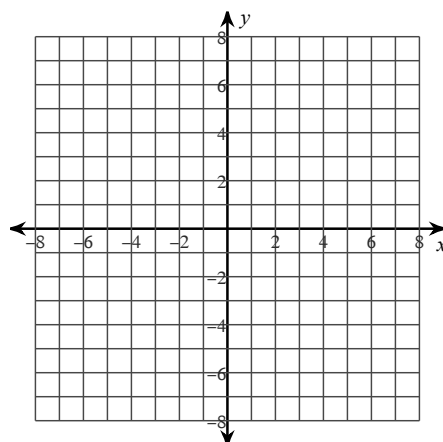6) $h(x) = \begin{cases} |x+4|, & x \le -4 \\ -|x|, & x > -4 \end{cases}$

-1-

7) $g(x) = \begin{cases} (x+3)^2, & x < -3 \\ 4, & -3 \le x < 1 \\ -x - 1, & x \ge 1 \end{cases}$

8) $f(x) = \begin{cases} -2, & x \le -4 \\ \sqrt{x+4}, & -4 < x < 0 \\ (x-1)^3, & x \ge 0 \end{cases}$

9) $g(x) = \begin{cases} (x+3)^2, & x \le -2 \\ |x+1|, & -2 < x \le 2 \\ |x-2|, & x > 2 \end{cases}$

10) $f(x) = \begin{cases} x+1, & x < -3 \\ -x-1, & -3 \le x < 3 \\ (x-3)^2, & x \ge 3 \end{cases}$

11) $f(x) = \begin{cases} -5, & x \le -4 \\ 4, & -4 < x \le 1 \\ (x-2)^3, & x > 1 \end{cases}$

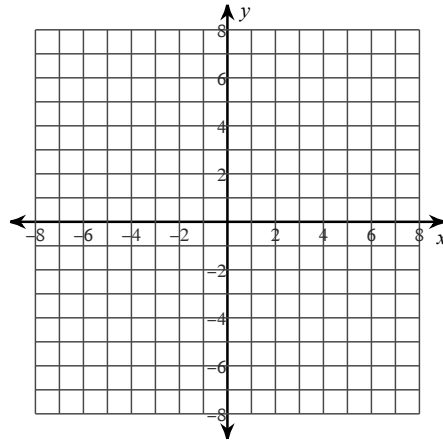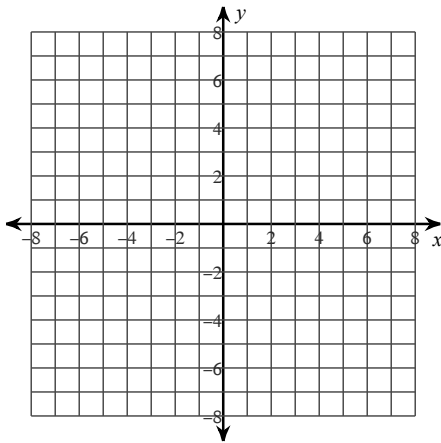12) $g(x) = \begin{cases} x+4, & x \le -3 \\ 4-x^2, & -3 < x \le 2 \\ |x-4|, & x > 2 \end{cases}$