

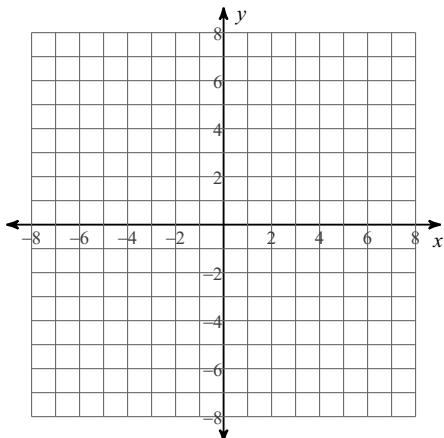
HM3 HW 3 - PIECEWISE FUNCTIONS

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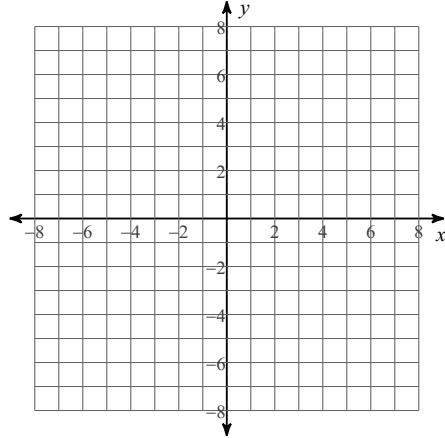
Name _____

Sketch the graph of each function. State the domain and range.

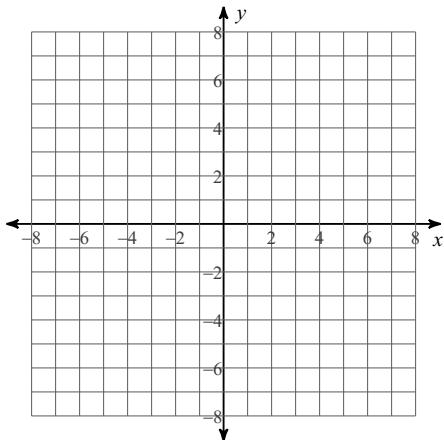
1) $h(x) = \begin{cases} -5, & x < 3 \\ (x - 3)^2, & x > 3 \end{cases}$



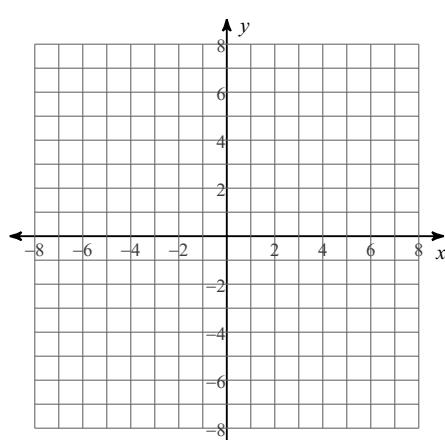
2) $f(x) = \begin{cases} -x, & x \leq 1 \\ 2x - 1, & x > 1 \end{cases}$



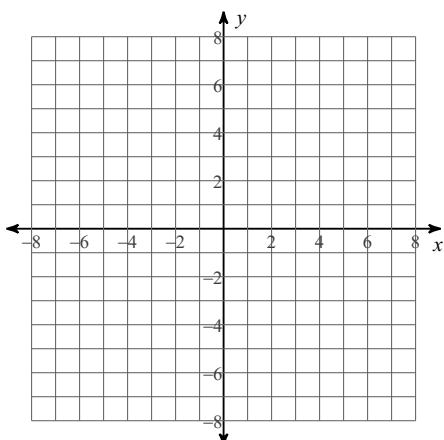
3) $f(x) = \begin{cases} -x, & x < -4 \\ x - 2, & -4 \leq x < 4 \\ -x + 2, & x > 4 \end{cases}$



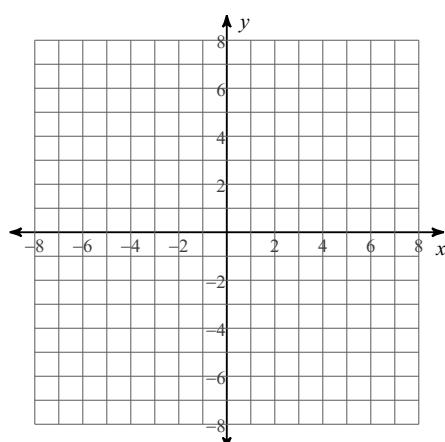
4) $g(x) = \begin{cases} 1, & x \leq -4 \\ (x + 2)^2, & -4 < x < 0 \\ 4 - x^2, & x \geq 0 \end{cases}$



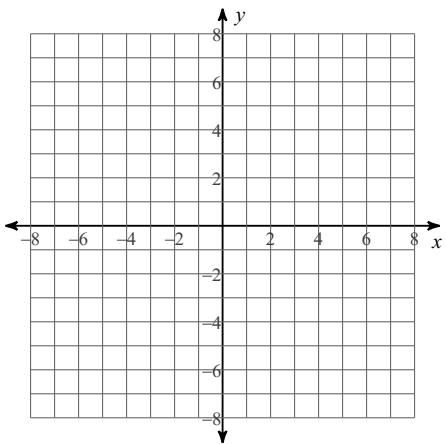
5) $f(x) = \begin{cases} (x + 4)^2, & x \leq -4 \\ |x| + 1, & -4 < x \leq 0 \\ x^2 - 1, & x > 0 \end{cases}$



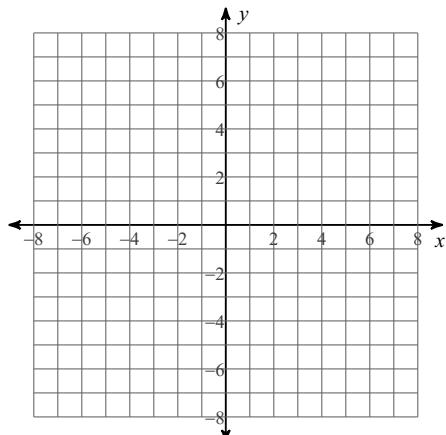
6) $f(x) = \begin{cases} 2x + 1, & x \leq -1 \\ x^2, & x > -1 \end{cases}$



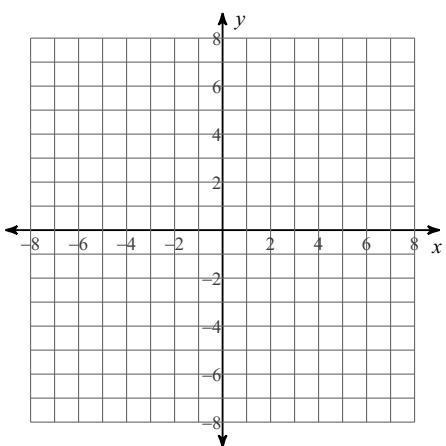
7) $f(x) = \begin{cases} -2x, & x < 2 \\ -x, & x > 4 \end{cases}$



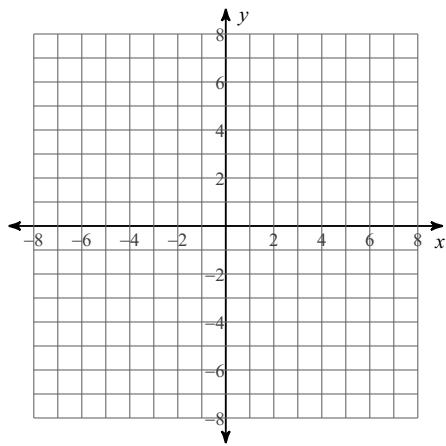
8) $f(x) = \begin{cases} (x+5)^2, & x < -4 \\ -|x|, & x \geq -4 \end{cases}$



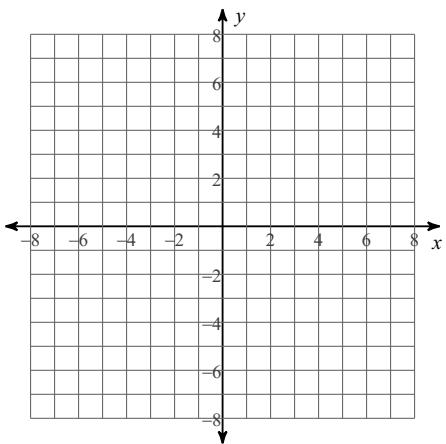
9) $f(x) = \begin{cases} (x+2)^2, & x < -1 \\ 2x-4, & x > 2 \end{cases}$



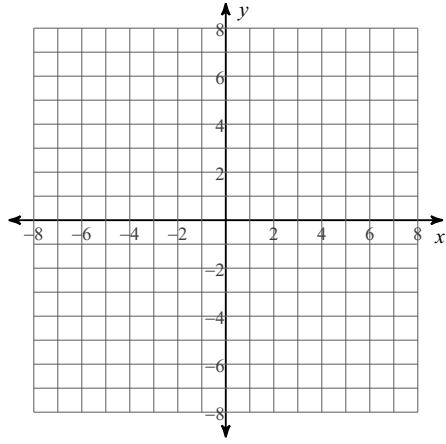
10) $h(x) = \begin{cases} -|x|, & x < 3 \\ x, & x > 3 \end{cases}$



11) $g(x) = \begin{cases} -x+4, & x < 0 \\ (x-4)^2, & x \geq 3 \end{cases}$

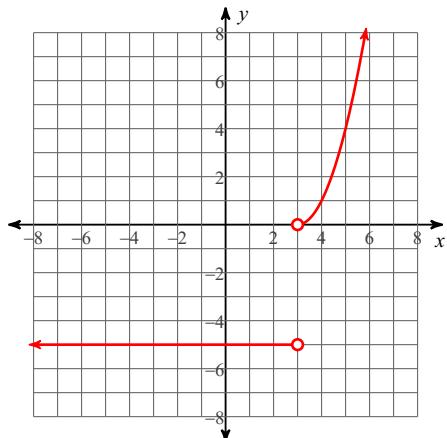


12) $f(x) = \begin{cases} -5, & x < -4 \\ 5, & x > -3 \end{cases}$

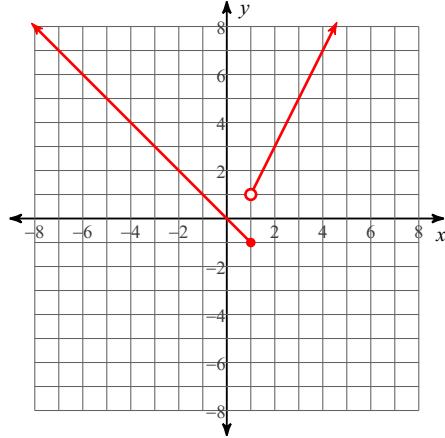


Sketch the graph of each function. State the domain and range.

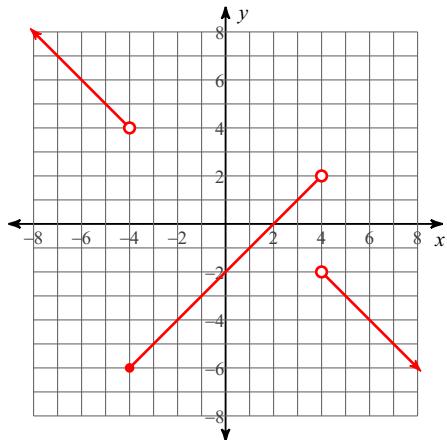
1)
$$h(x) = \begin{cases} -5, & x < 3 \\ (x-3)^2, & x > 3 \end{cases}$$



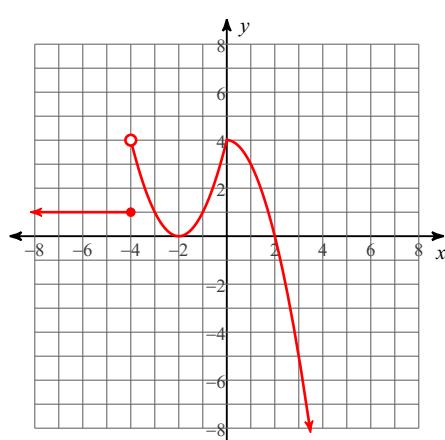
2)
$$f(x) = \begin{cases} -x, & x \leq 1 \\ 2x-1, & x > 1 \end{cases}$$



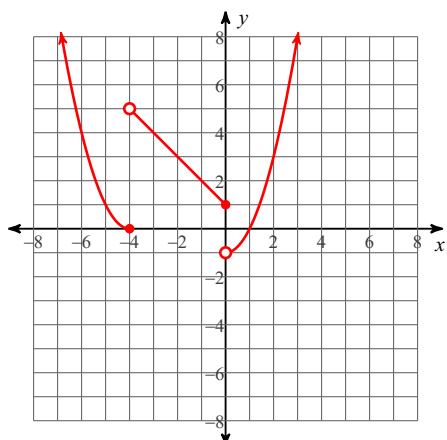
3)
$$f(x) = \begin{cases} -x, & x < -4 \\ x-2, & -4 \leq x < 4 \\ -x+2, & x > 4 \end{cases}$$



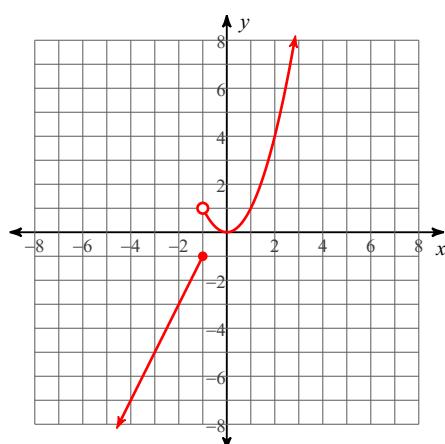
4)
$$g(x) = \begin{cases} 1, & x \leq -4 \\ (x+2)^2, & -4 < x < 0 \\ 4-x^2, & x \geq 0 \end{cases}$$



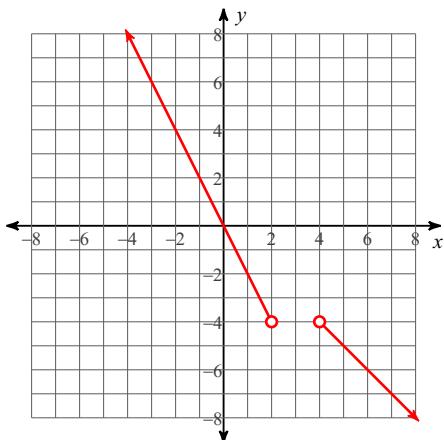
5)
$$f(x) = \begin{cases} (x+4)^2, & x \leq -4 \\ |x| + 1, & -4 < x \leq 0 \\ x^2 - 1, & x > 0 \end{cases}$$



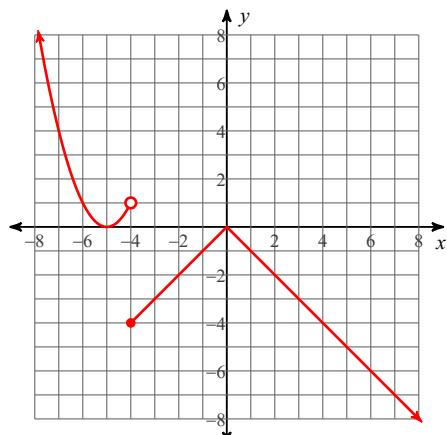
6)
$$f(x) = \begin{cases} 2x+1, & x \leq -1 \\ x^2, & x > -1 \end{cases}$$



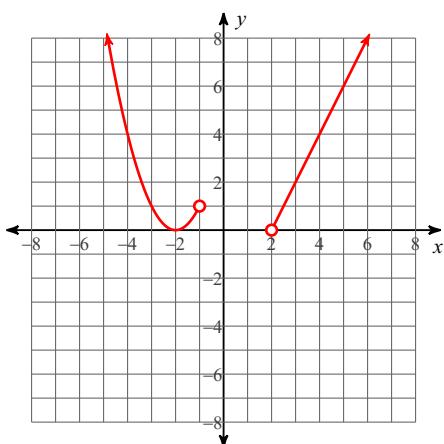
7) $f(x) = \begin{cases} -2x, & x < 2 \\ -x, & x > 4 \end{cases}$



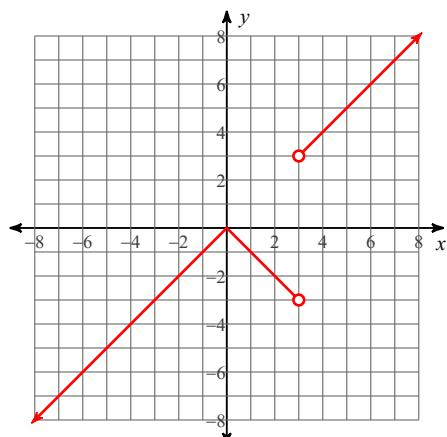
8) $f(x) = \begin{cases} (x+5)^2, & x < -4 \\ -|x|, & x \geq -4 \end{cases}$



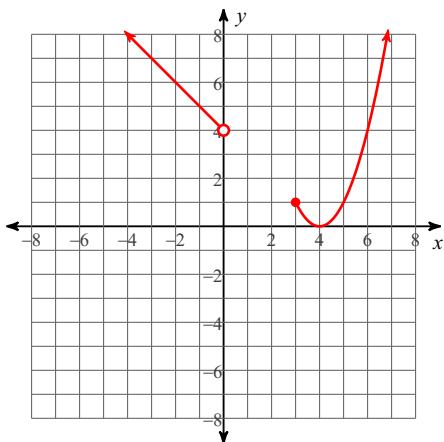
9) $f(x) = \begin{cases} (x+2)^2, & x < -1 \\ 2x-4, & x > 2 \end{cases}$



10) $h(x) = \begin{cases} -|x|, & x < 3 \\ x, & x > 3 \end{cases}$



11) $g(x) = \begin{cases} -x+4, & x < 0 \\ (x-4)^2, & x \geq 3 \end{cases}$



12) $f(x) = \begin{cases} -5, & x < -4 \\ 5, & x > -3 \end{cases}$

