

Learning Target 2

I can create a piecewise function using a variety of functions.

Evaluate each of the following and then state the domain and range of the piecewise function.

1) a) $h(-2) = \underline{-5}$

b) $h(-4) = \underline{-1}$

c) $h(-9) = \underline{-10}$

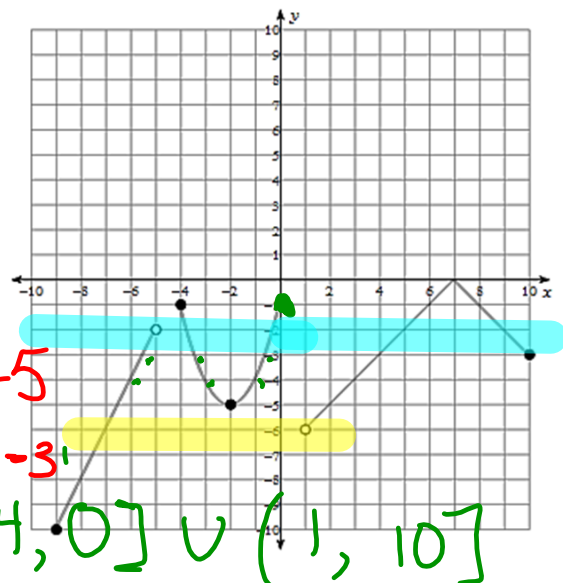
d) $h(1) = \underline{DNE}$

e) $h(-6) + h(6) = \underline{-4 + -1 = -5}$

f) $h(-1) - h(0) = \underline{-4 - (-1) = -3}$

g) Domain: $\underline{[-9, -5) \cup [-4, 0] \cup (1, 10]}$

h) Range: $\underline{[-10, 0]}$

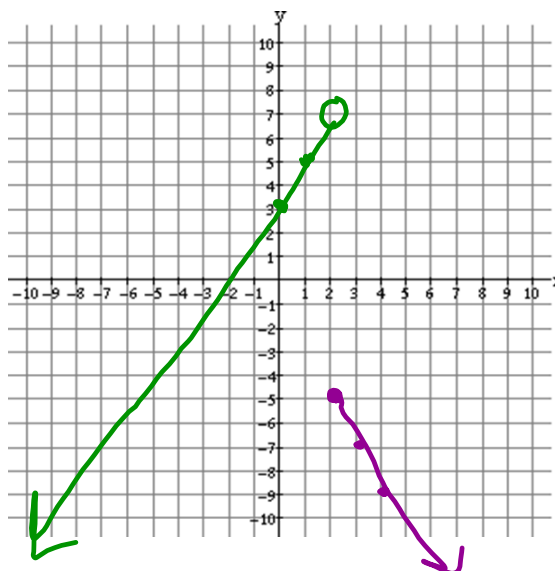


Graph each piecewise function and then state the domain and range.

$$2) f(x) = \begin{cases} 2x+3 & x < 2 \\ -2x-1 & x \geq 2 \end{cases}$$

x	f(x)
0	3
1	5
2	7

x	f(x)
2	-5
3	-7
4	-9



Domain: $(-\infty, \infty)$

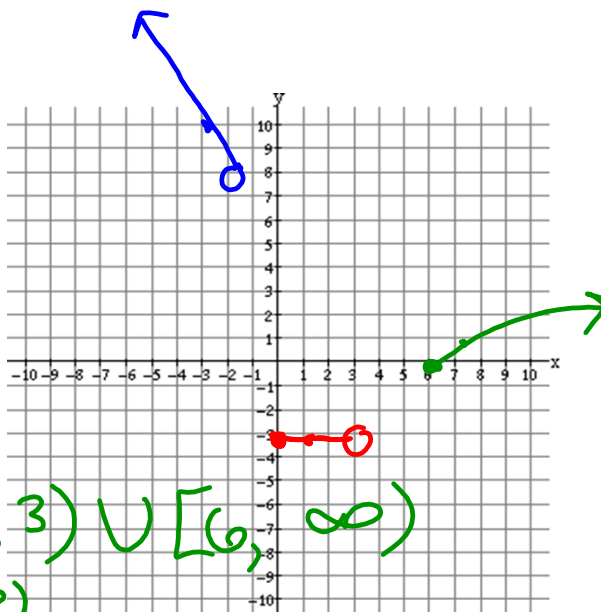
Range: $(-\infty, 7)$

$$3) f(x) = \begin{cases} -2x+4 & x < -2 \\ -3 & 0 \leq x < 3 \\ \sqrt{x-6} & x \geq 6 \end{cases}$$

x	f(x)
-2	8
-3	10
-4	12

x	f(x)
0	-3
1	-3
3	-3

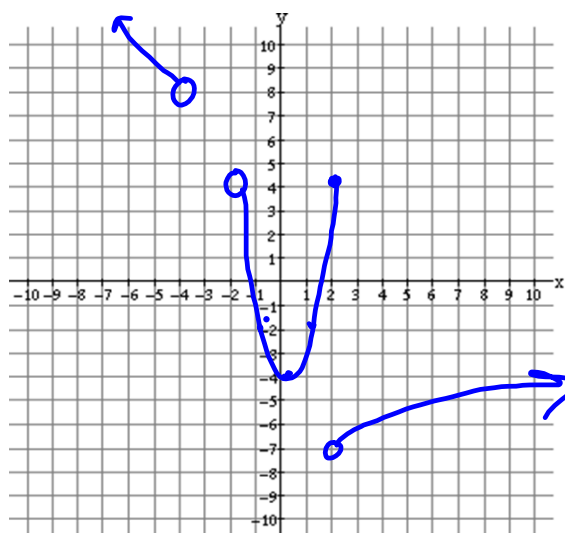
x	f(x)
6	0
7	1



Domain: $(-\infty, -2) \cup [0, 3) \cup [6, \infty)$

Range: $[-3, -3] \cup [0, \infty)$

$$4) f(x) = \begin{cases} -x + 4 & x < -4 \\ 2x^2 - 4 & -2 < x \leq 2 \\ \sqrt{x-2} - 7 & x > 2 \end{cases}$$



Domain: _____

Range: _____