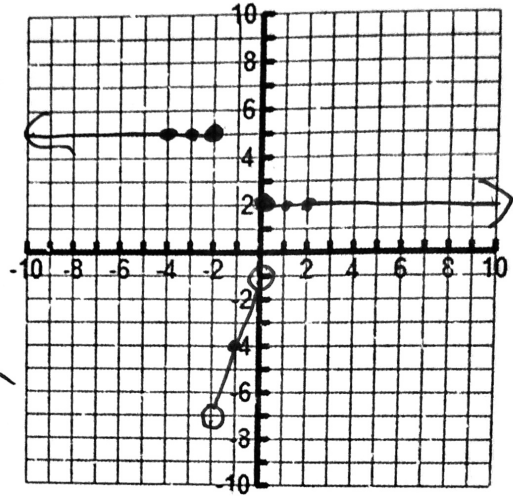


A piecewise function is a function that applies different function rules to various parts of the domain.

Graph and evaluate each piecewise function. Then determine the domain/range, and intervals increasing/decreasing.

$$1) f(x) = \begin{cases} 2 & x \geq 0 \\ 3x - 1 & -2 < x < 0 \\ 5 & x \leq -2 \end{cases}$$



a)  $f(-10) = 5$       b)  $f(-2) = 5$

c)  $f(-1.5) = -5.5$       d)  $f(-1) = -4$

e)  $f(0) = 2$       f)  $f(3) = 2$

g) Domain:  $x | x \geq 0 \cup -2 < x < 0 \cup x \leq -2$        $x = \mathbb{R}$

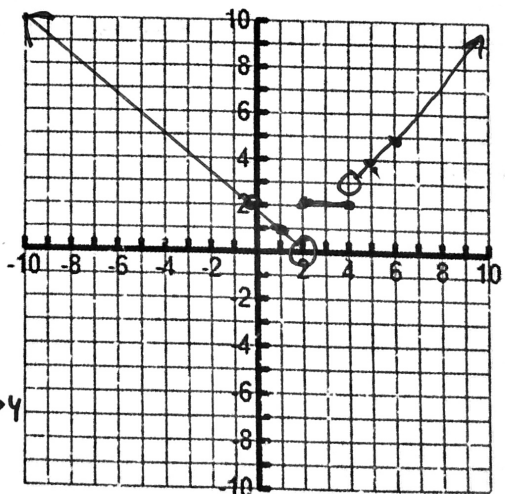
h) Range:  $y | -7 < y < 7 \cup y = 2, 5$

i) Increasing Intervals:  $-2 < x < 0$       Decreasing Intervals: undefined  
 Increasing Intervals: N/A

0	2	3x-1	
1	2	-2	-7
2	2	-1	-4
		0	-1

-2	5
-3	5
-4	5

$$2) h(x) = \begin{cases} 2-x & x < 2 \\ 2 & 2 \leq x \leq 4 \\ x-1 & x > 4 \end{cases}$$



a)  $f(-2) = 4$       b)  $f(0) = 2$

c)  $f(2) = 2$       d)  $f(3.5) = 2$

e)  $f(4) = 2$       f)  $f(10) = 9$

g) Domain:  $x | x = \mathbb{R}$        $x < 2 \cup 2 \leq x \leq 4 \cup x > 4$

h) Range:  $y | y > 0$

i) Increasing Intervals:  $x > 4$       Decreasing Intervals:  $x < 2$   
 Increasing Intervals: N/A

2-x	2	x-1
2	2	4
3	2	5
4	2	6

2/2