

Evaluate the following for  $f(x) = \begin{cases} \underline{3x-5}, & x > 4 \\ \boxed{x^2}, & x \leq 4 \end{cases}$  :

1.  $f(7) = 3(7) - 5$   
 $= 16$

2.  $f(4) = (4)^2$   
 $= 16$

3.  $f(-3)$   
 $(-3)^2$   
 $f(-3) = 9$

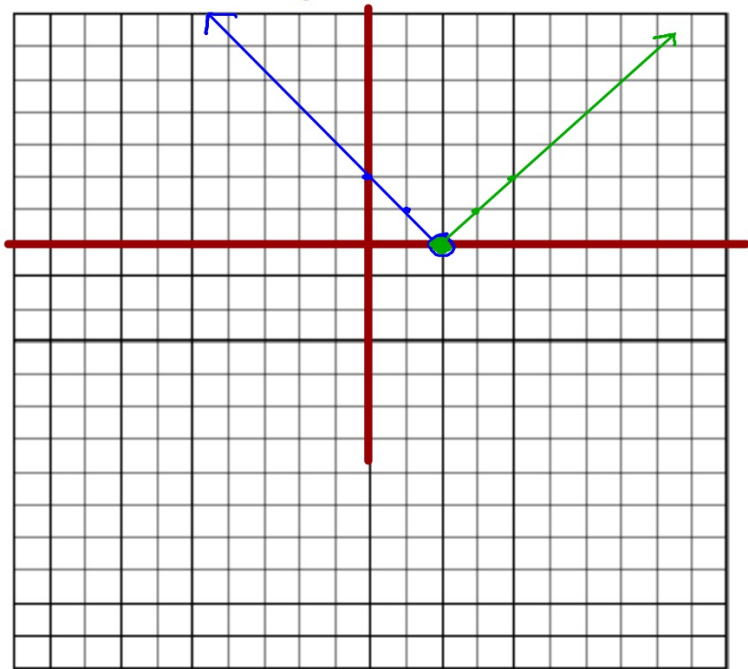
Evaluate the following for  $f(x) = \begin{cases} -2|x+1|, & x \leq 1 \\ 3, & 1 < x < 3 : y=3 \\ 6-2x, & x \geq 3 \end{cases}$

4.  $f(10) = 6 - 2(10)$   
 $6 - 20$   
 $-14$   
 $(10, -14)$

5.  $f(2) = 3$   
 $(2, 3)$

6.  $f(0)$   
 $-2|0+1|$   
 $-2|1| = -2$   
 $(0, -2)$

$$8. g(x) = \begin{cases} -x + 2, & x < 2 \\ x - 2, & x \geq 2 \end{cases}$$



$x < 2$	
x	y
2	0
1	1
0	2

$x \geq 2$	
x	y
2	0
3	1
4	2

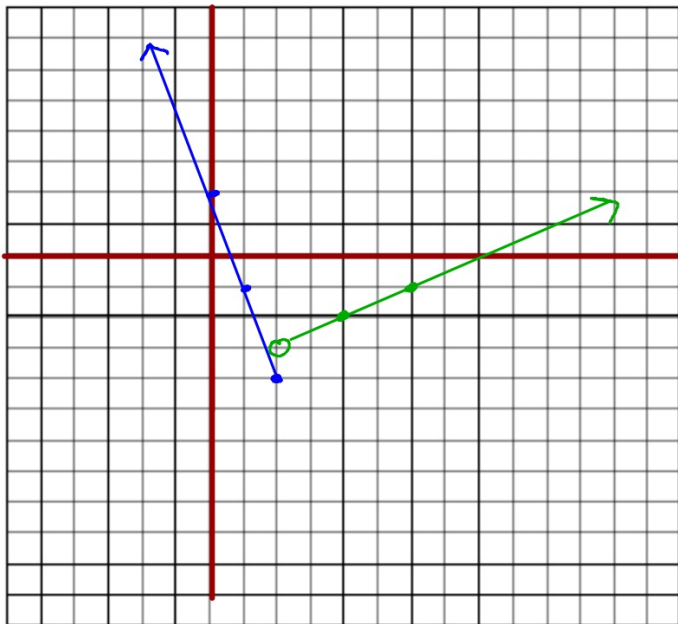
$$9. h(x) = \begin{cases} -3x + 2, & x \leq 2 \\ \frac{1}{2}x - 4, & x > 2 \end{cases}$$

$$x \leq 2$$

x	y
2	-4
1	-1
0	2

$$x > 2$$

x	y
2	-3
4	-2
6	-1

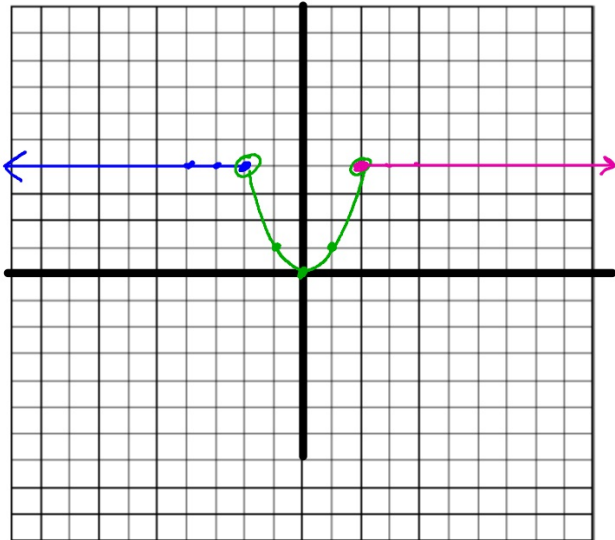


$$D: (-\infty, \infty)$$

$$R: [-4, \infty)$$

Discontinuous @  $x = 2$

$$10. f(x) = \begin{cases} 4, & x \leq -2 \\ x^2, & -2 < x < 2 \\ 4, & x \geq 2 \end{cases}$$



$$x \leq -2$$

x	y
-2	4
-3	4
-4	4

$$x \geq 2$$

x	y
2	4
3	4
4	4

$$-2 < x < 2$$

x	y
-2	4
-1	1
0	0
1	1
2	4

$$R: [0, 4]$$