

McG Key

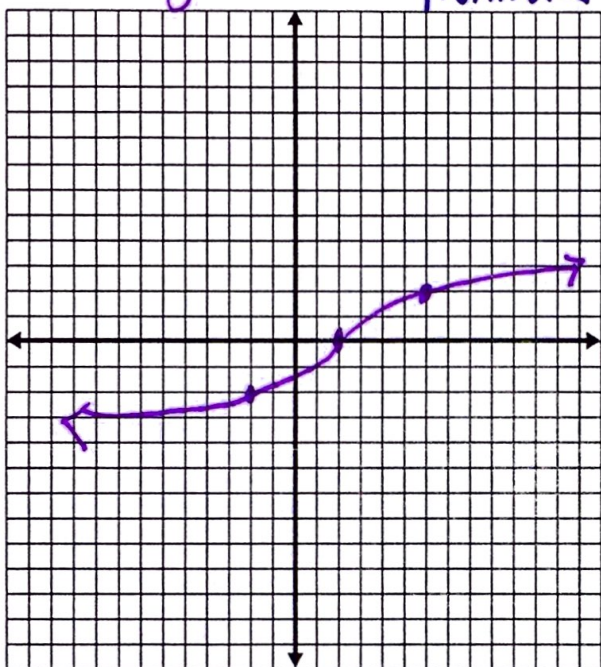
Complete this set for homework in addition to the work listed for tonight in the textbook.  
Using your tool kit of functions and transformational graphing to graph the following functions.  
State the domain and range of each.

1.  $f(x) = \sqrt[3]{2x - 4}$

$\sqrt[3]{2(x-2)}$   
horiz. comp.  $\frac{1}{2}$   
right 2

$D: \{x | x \in \mathbb{R}\}$   
 $R: \{y | y \in \mathbb{R}\}$

NEITHER

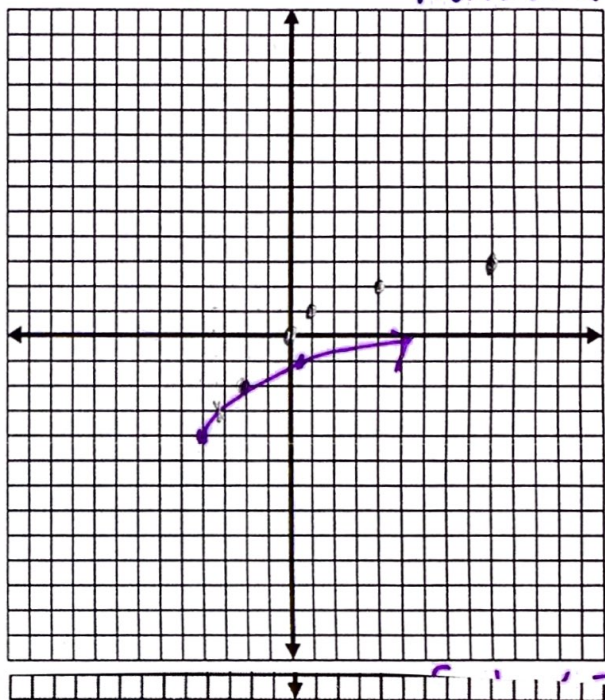


2.  $h(x) = \sqrt{2x + 8} - 4$

$= \sqrt{2(x+4)} - 4$   
horiz. comp.  $\frac{1}{2}$   
left 4 / down 4

$D: \{x | x \geq -4\}$   
 $R: \{y | y \geq -4\}$

NEITHER

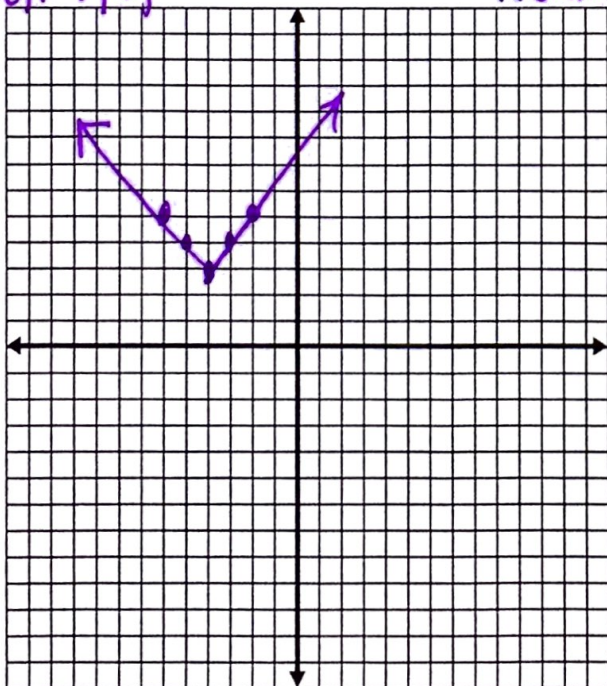


3.  $g(x) = |-x - 4| + 3$

$-1(x+4) + 3$   
refl. over y  
left 4 / up 3

$D: \{x | x \in \mathbb{R}\}$   
 $R: \{y | y \geq 3\}$

NEITHER

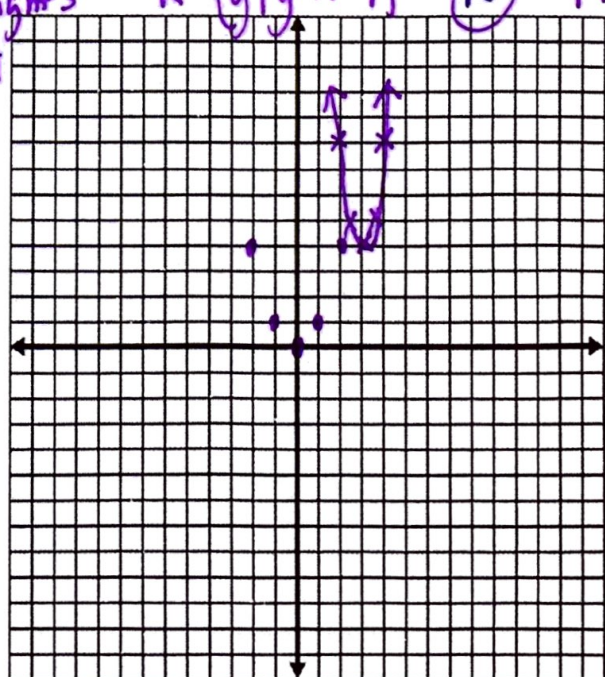


4.  $p(x) = (2x - 6)^2 + 4$

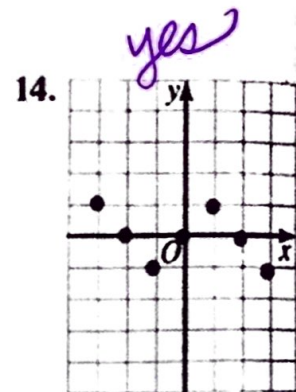
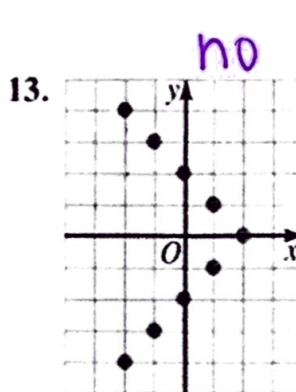
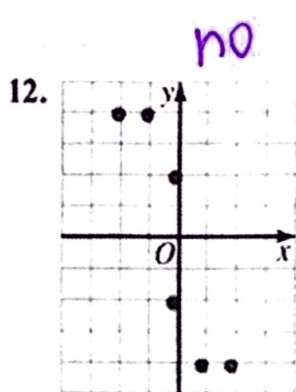
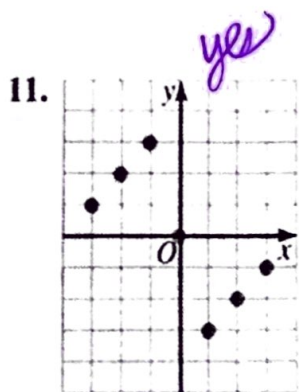
$p(x) = (2(x-3))^2 + 4$   
-horiz. comp.  $\frac{1}{2}$   
-right 3  
-up 4  
 $D: \{x | x \in \mathbb{R}\}$   
 $R: \{y | y \geq 4\}$

x	x <sup>2</sup>
-2	4
-1	1
0	0
1	1
2	4

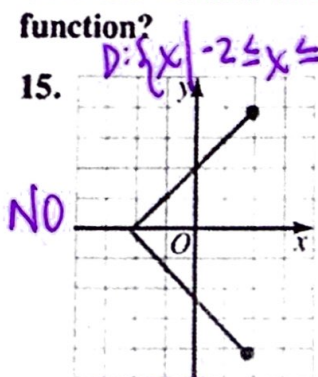
(N)



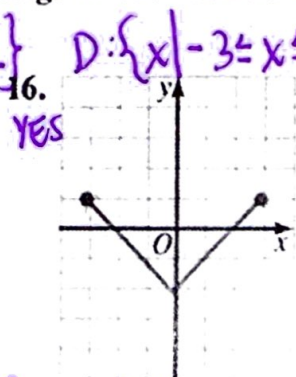
Is the relation a function (yes or no)?



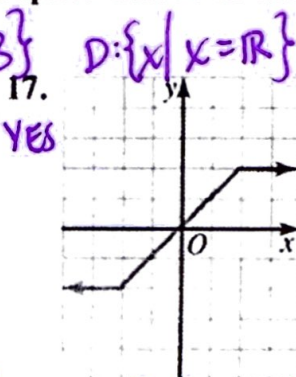
Give the domain and range of each relation graphed below. Is the relation a function?



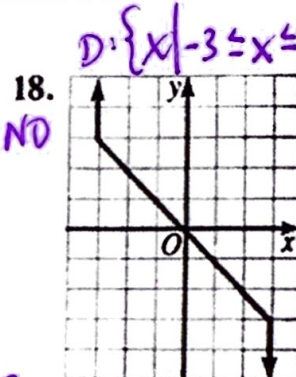
*D: {x | -2 ≤ x ≤ 2}*



*D: {x | -3 ≤ x ≤ 3}*



*D: {x | x ∈ ℝ}*



*D: {x | -3 ≤ x ≤ 3}*

*R: {y | -4 ≤ y ≤ 4}*

*R: {y | -2 ≤ y ≤ 1}*

*R: {y | -2 ≤ y ≤ 2}*

*R: {y | y ∈ ℝ}*

Give the domain of each relation.

19.  $\{(x, y): y = \frac{3}{x-5}\}$  *{x | x ≠ 5}*

20.  $\{(x, y): y < \frac{1}{x^2-4}\}$  *{x | x ≠ ±2}*

21.  $\{(x, y): y = \frac{x}{|x-7|}\}$  *{x | x ≠ 7}*

22.  $\{(x, y): |x| + |y| = 1\}$  *{x | -1 ≤ x ≤ 1}*

*19*

*-1 + 0 = 1*  
*0 + 1 = 1*  
*-1/2 + 1/2 = 1*  
*-3/4 + 3/4 = 1*