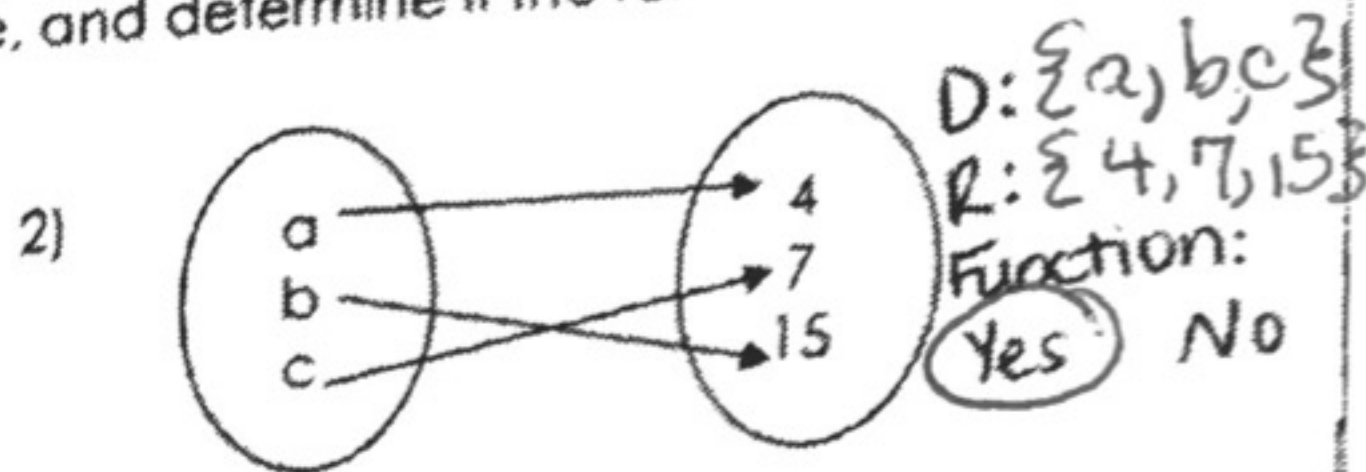


# Functions Intro Review HW

Name Key

For each of relation below, list the domain, range, and determine if the relation is a function.

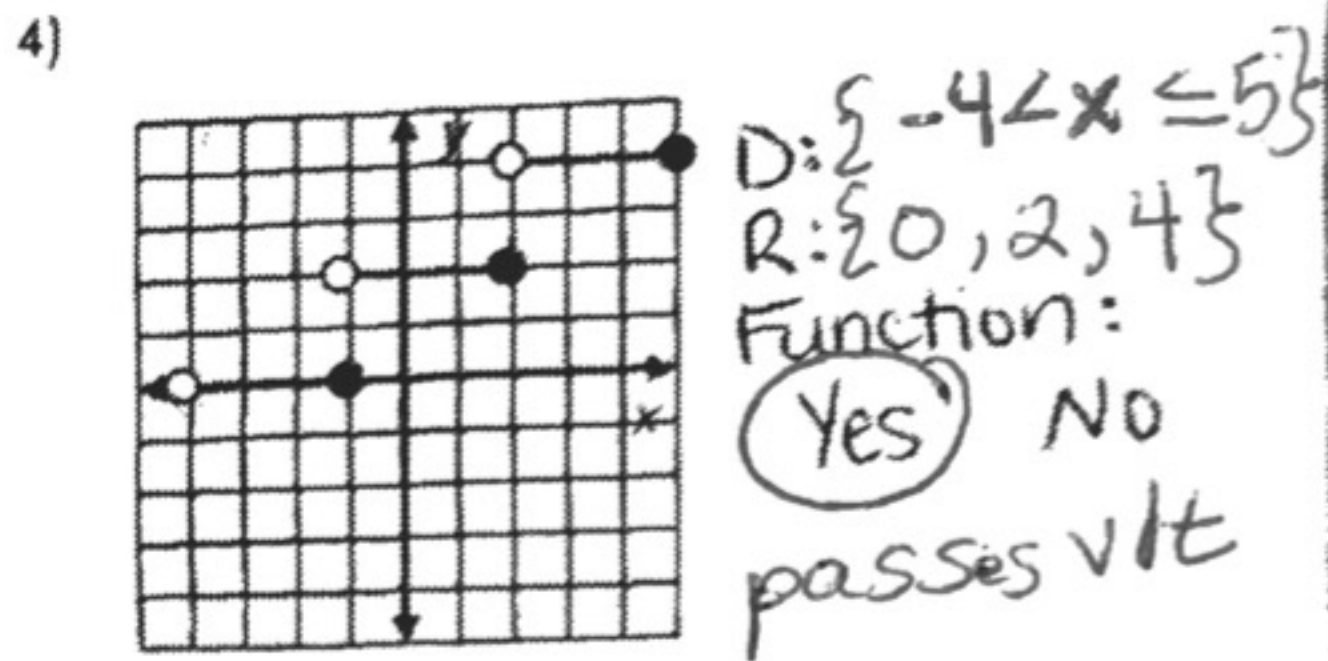
- 1)  $\{(1,2), (3,-4), (1,8), (9,-6)\}$   
 D:  $\{1, 3, 9\}$   
 R:  $\{-6, -4, 2, 8\}$   
 Function: Yes **No**

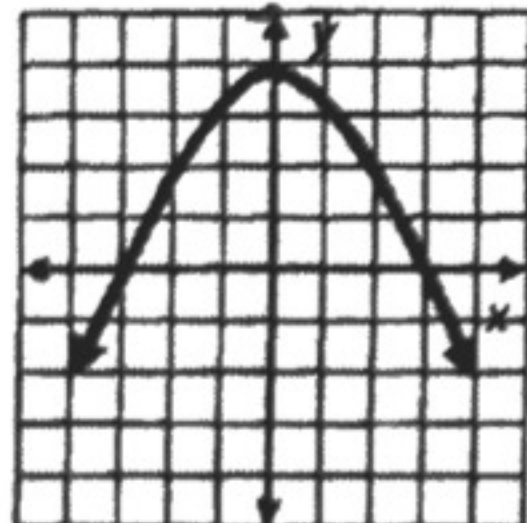


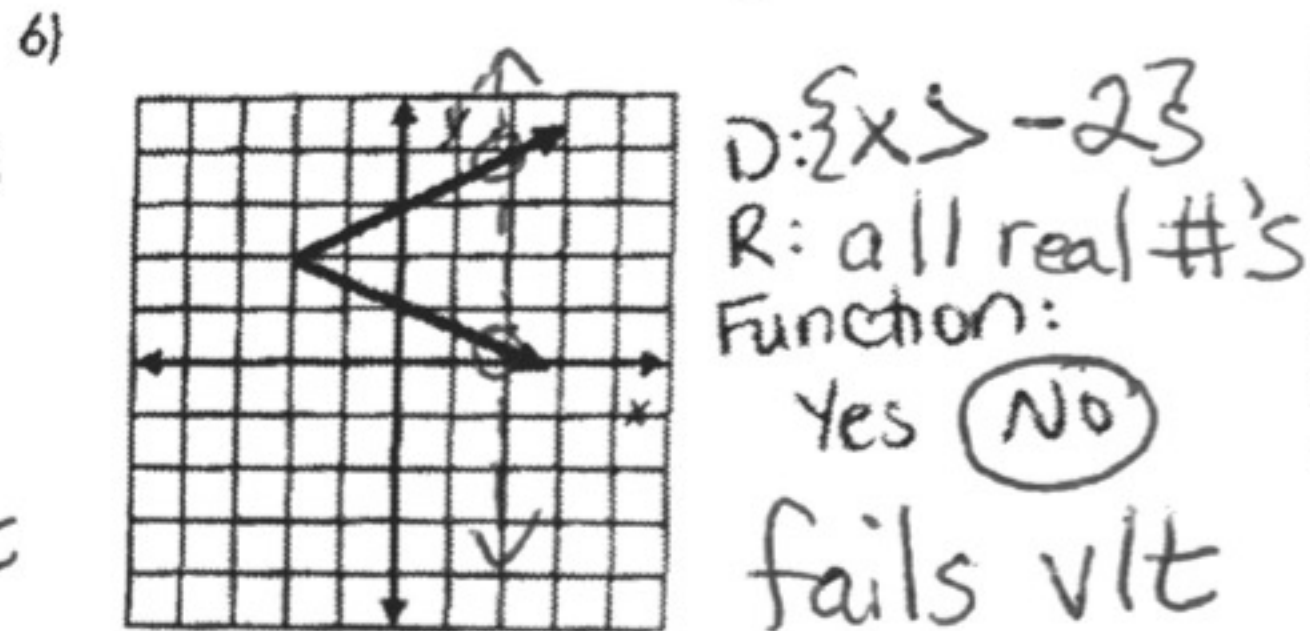
- 3) 

x	y
-5	8
-3	4
-1	2
1	0
3	2

  
 D:  $\{-5, -3, -1, 1, 3\}$   
 R:  $\{0, 2, 4, 8\}$   
 Function: **Yes** No



- 5)   
 D: all real #'s  
 R:  $\{y \leq 5\}$   
 Function: **Yes** No  
 passes vlt

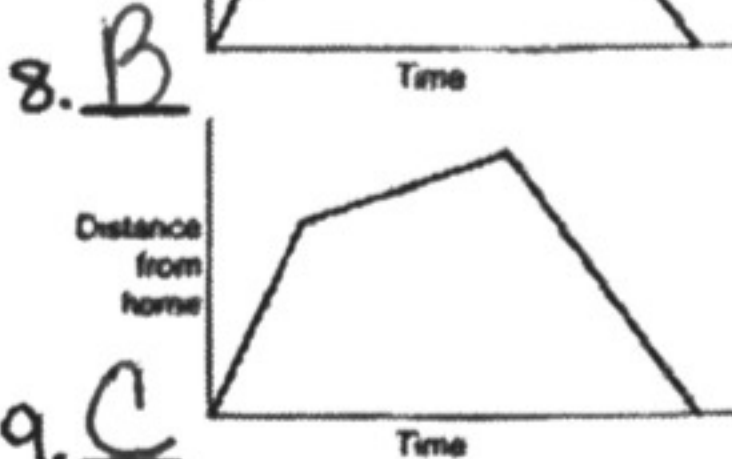


Match the graph to the corresponding situation.

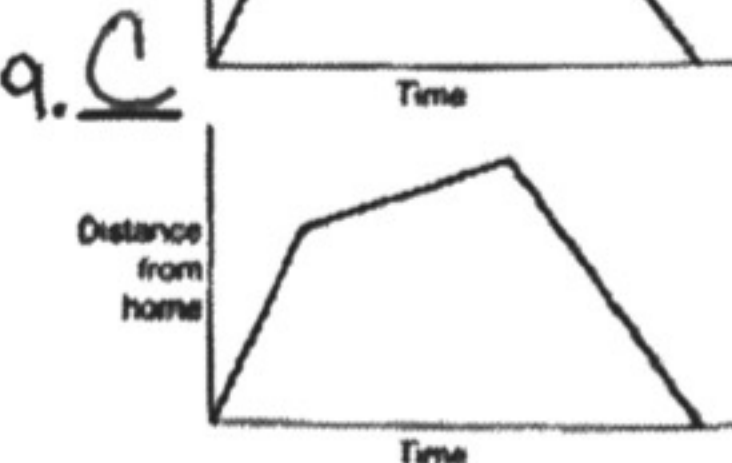
A. Tom took his dog for a walk to the park. He set off slowly and then increased his pace. At the park Tom turned around and walked slowly back home.



B. Tom rode his bike east from his home up a steep hill. After a while the slope eased off. At the top he raced down the other side.



C. Tom went for a jog. At the end of his road he bumped into a friend and his pace slowed. When Tom left his friend he walked quickly back home.



10. What is an equation of the line passing through the points (3,-2) and (4,-6)?

11. What equation has a graph that passes through the point (-2, 4) and has a slope of 0.

12. What equation represents a line with a slope of  $-\frac{3}{2}$  that passes through point (9,-6)?

Find the rate of change and y-intercept.

13.  $-2x - y + 4 = 0$

14.  $-3y + x = -7$

15.  $-8x - 3y = -9$

16.  $-x + 9y - 27 = 9$

10)  $(3, -2), (4, -6)$

$$m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{-6 - (-2)}{4 - 3} = \frac{-6 + 2}{1} = \frac{-4}{1} = -4$$

$m = -4, (4, -6)$

$$y = mx + b$$

$$-6 = -4(4) + b$$

$$-6 = -16 + b$$

$$10 = b$$

$m = -4, b = 10$

$$y = mx + b$$

$$y = -4x + 10$$

11) Slope of zero is a horizontal line.  $y = 4$

12)  $m = -\frac{3}{2}, (9, -6)$

$$y = mx + b$$

$$-6 = -\frac{3}{2}(9) + b$$

$$-6 = -\frac{27}{2} + b$$

$$-\frac{12}{2} = -\frac{27}{2} + b$$

$$-\frac{12}{2} + \frac{27}{2} = b$$

$$\frac{15}{2} = b$$

$m = -\frac{3}{2}, b = \frac{15}{2}$

$$y = mx + b$$

$$y = -\frac{3}{2}x + \frac{15}{2}$$

13)  $-2x - y + 4 = 0$

$$-2x - y = -4$$

$$-y = 2x - 4$$

$$\frac{-y}{-1} = \frac{2x - 4}{-1}$$

$$y = -2x + 4$$

$$m = -2, b = 4$$

14)  $-3y + x = -7$

$$\frac{-3y}{-3} = \frac{-x - 7}{-3}$$

$$y = \frac{1}{3}x + \frac{7}{3}$$

$$m = \frac{1}{3}, b = \frac{7}{3}$$

15)  $-8x - 3y = -9$

$$-3y = 8x - 9$$

$$\frac{-3y}{-3} = \frac{8x - 9}{-3}$$

$$y = -\frac{8}{3}x + 3$$

$$m = -\frac{8}{3}, b = 3$$

16)  $-x + 9y - 27 = 9$

$$-x + 9y = 36$$

$$9y = x + 36$$

$$\frac{9y}{9} = \frac{x + 36}{9}$$

$$y = \frac{1}{9}x + 4$$

$$m = \frac{1}{9}, b = 4$$