

Gillespie

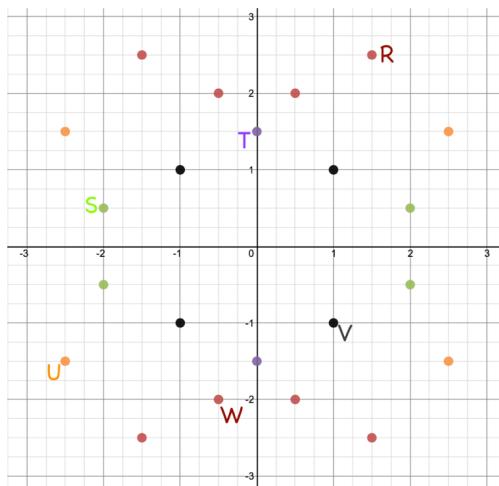
## Course 3: Ch4 Test Review

## Functions

Directions: When working each of the following questions, be sure to show all work. Be sure to round any decimals to the nearest hundredth.

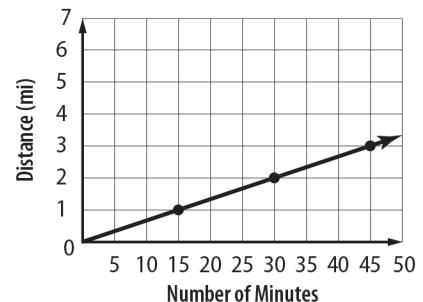
**1)** Determine the coordinates for point W.

- a)  $(-\frac{1}{2}, -2)$
- b)  $(-1.5, -1.25)$
- c)  $(-2.5, -1.5)$
- d)  $(2.5, -1.5)$



**2)** The graph shows the distance Paul jogged one day. Is the function proportional?

- a) Proportional;  $\frac{y}{x} = \frac{1}{15} = \frac{2}{30}$
- b) Proportional;  $\frac{y}{x} = \frac{15}{1} = \frac{30}{2}$
- c) Non-proportional; each  $x$  needs exactly equal one  $y$
- d) Non-proportional; the function is not  $y = mx$



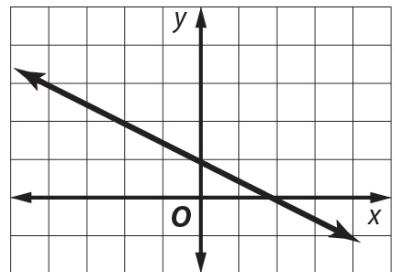
**3)** Is the function represented by the table proportional or non-proportional?

- a) Proportional;  $\frac{-4}{-1} = \frac{0}{3} = \frac{4}{9} = \frac{8}{17}$
- b) Proportional;  $\frac{-1}{-4} = \frac{3}{0} = \frac{9}{4} = \frac{17}{8}$
- c) Non-proportional; the function is not  $y = mx$
- d) Non-proportional; this function would not pass the vertical line test

$x$	-4	0	4	8
$y$	-1	3	9	17

4) Determine whether the relation is a function.

- a) Not a function; each  $x$  needs exactly one  $y$
- b) Not a function; graph fails the vertical line test
- c) Not a function; the function is not  $y = mx$
- d) This is a function; it passes the VLT



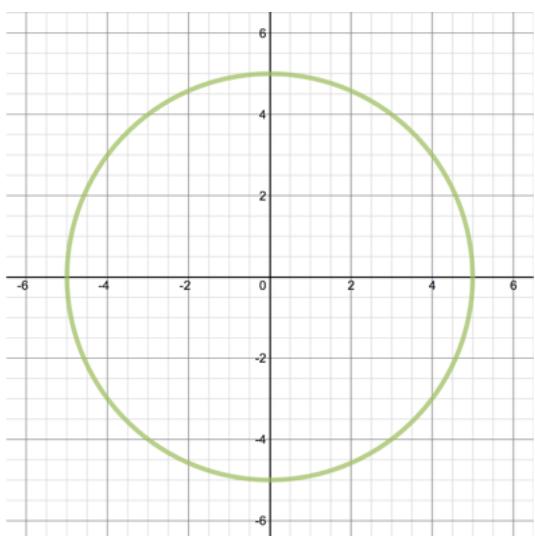
5) Determine whether the relation is a function.

- a) Not a function; each  $x$  needs exactly one  $y$
- b) Not a function; graph fails the vertical line test
- c) Not a function; the function is not  $y = mx$
- d) This is a function; it passes the VLT

$x$	$y$
-1	-5
1	-4
3	-3

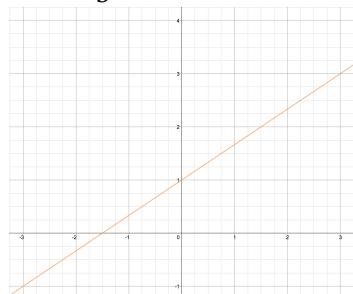
6) Determine whether the relation is a function.

- a) Not a function; each  $x$  needs exactly one  $y$
- b) Not a function; graph fails the vertical line test
- c) Not a function; the function is not  $y = mx + b$
- d) This is a function; it passes the VLT

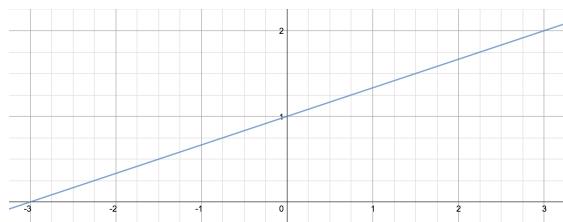


7) Which graph represents the function  $y = \frac{2}{3}x + 1$

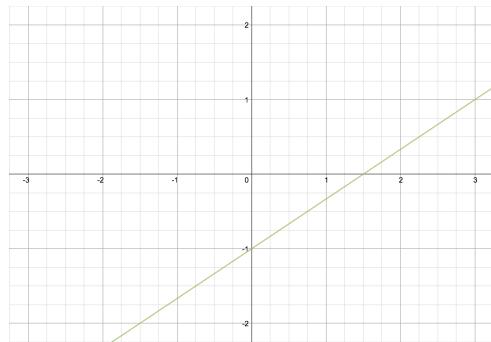
a)  $y = \frac{2}{3}x + 1$



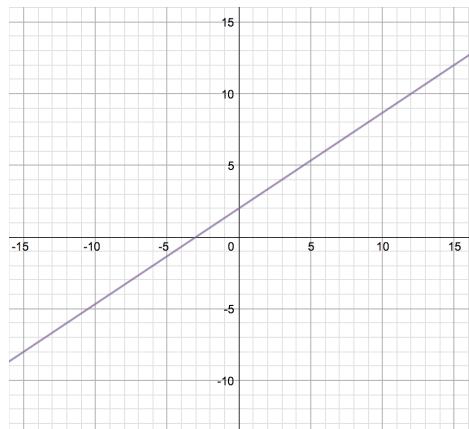
b)  $y = \frac{2}{3}x + 1$



c)  $y = \frac{2}{3}x + 1$

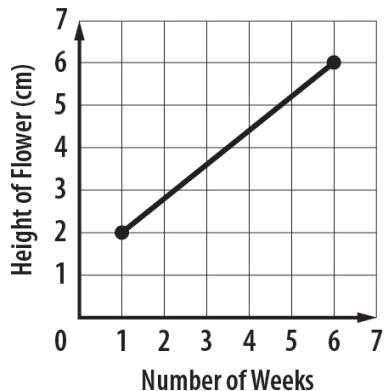


d)  $y = \frac{2}{3}x + 1$



- 8) The height of the flower is measured for several weeks.  
The graph shows the height of the flower for each week.  
Determine and interpret the rate of change.

- a) The rate of change is  $\frac{1}{2}$  for the height of flowers
- b) The rate of change is 1 flower each week
- c) The rate of change is  $\frac{4}{5}$ , the flower grows at a rate of 4cm every 5 weeks
- d) The rate of change is 1, the flower grows at a rate of 1cm per week



- 9) Determine the domain and range of the relation  $\{(-5, -2), (-3, 0), (1, 7), (4, 6)\}$ .
- a)

$$D: \{-5, -2\}, \{-3, 0\}$$

$$R: \{1, 7\}, \{4, 6\}$$

- b)

$$D: \{-2, 0, 6, 7\}$$

$$R: \{-5, -3, 1, 4\}$$

- c)

$$D: \{-5, -3, 1, 4\}$$

$$R: \{-2, 0, 6, 7\}$$

- d)

$$D: \{1, 7\}, \{4, 6\}$$

$$R: \{-5, -2\}, \{-3, 0\}$$

10) Adult tickets for the movie theater cost \$9.50 each. Write an equation that can be used to find the total cost  $c$  of any number of adult tickets  $t$ . Then use the equation to determine how much 7 adult tickets would cost.

- a)  $c = 9.5t$ ; 7 tickets cost \$66.50
- b)  $c = 9.5t + b$ ; 7 tickets cost \$66.50
- c)  $t = 9.5$ ;  $c = 9.5 * t$
- d)  $t = 9.5c + b$

11) The table shows the amount of money Ali is paid for working different numbers of hours. What would be Ali's total pay if he works for 36 hours in a week?

- a) \$13
- b) \$468
- c) \$936
- d) \$2,340

# of hours	\$ paid
2	26
4	52
6	78
8	104

12) Use the function table to determine if  $y = -3x + 5$  is a function.

- a) This is a function; each  $x$  value has exactly one  $y$  value
- b) This is a function; it fails the VLT
- c) Not a function; the function is not  $y = mx$
- d) Not a function; each  $x$  value has more than one  $y$  value

$x$	$y$
-2	
-1	
0	
1	
2	

13) Each total ticket price shown in the table below includes an \$8.50 service fee. If the price per ticket is constant, how much can Greg expect to pay for 9 tickets, including the service fee?

- a) \$104.50
- b) \$108.50
- c) \$112.50
- d) \$116.50

# of tickets	\$ Total Paid
4	\$56.50
9	?
12	\$152.50
14	\$176.50

14) The admission for the chess team to go to the waterpark can be represented by the equation  $y = 12x$ , where  $y$  is the total cost of admission for  $x$  students. Determine whether the function is proportional or non-proportional. Explain.

- a) proportional; the function is written in  $y = mx$  form
- b) proportional; the function is written in  $y = mx + b$  form
- c) non – proportional; the function is written in  $y = mx$  form

15) The population of DeSoto rose an average of 142 people for each of 5 years. It then had 5,428 people. Assume the relationship is linear. Determine and interpret the rate of change and the initial value.

- a) rate = 142 people; initial population = 710
- b) rate = 142 people; initial population = 4,718
- c) rate = 5 years; initial population =  $b$
- d) rate = 5 years; initial population = 5,286