

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.

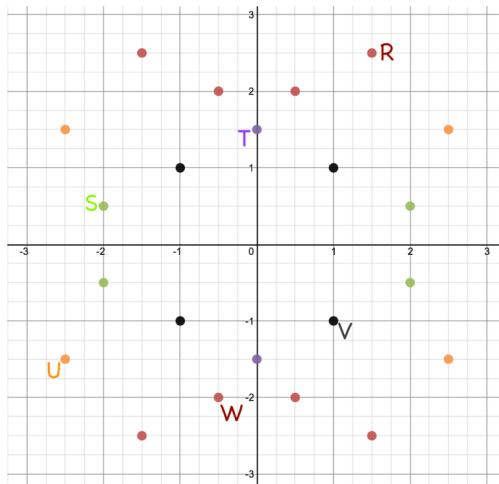
1) Determine the coordinates for point W.

a) $(-\frac{1}{2}, -2)$

b) $(-1.5, -1.25)$

c) $(-2.5, -1.5)$

d) $(2.5, -1.5)$



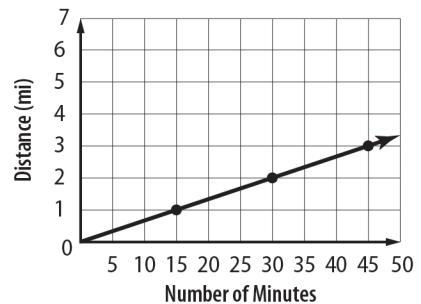
2) The graph shows the distance Paul jogged one day. Is the function proportional?

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; $\frac{-1}{-4} = \frac{3}{0} = \frac{9}{4} = \frac{17}{8}$

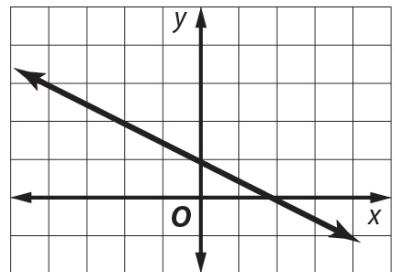
c) Non-proportional; the function is not $y = mx$

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



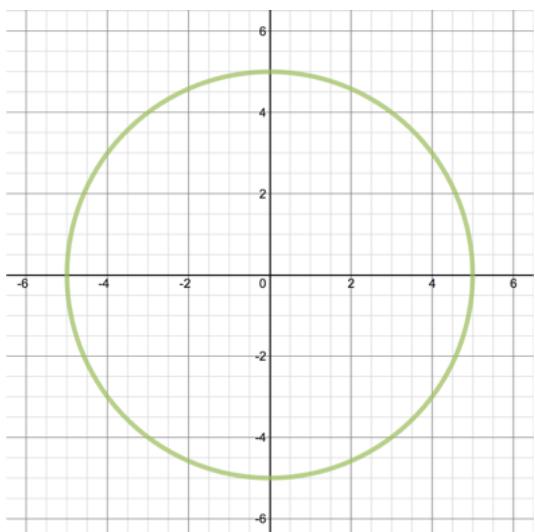
5) Determine whether the relation is a function.

- 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 |

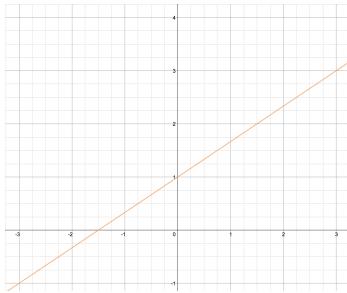
6) Determine whether the relation is a function.

- a) Not a function; each x needs exactly one y
OR
- 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

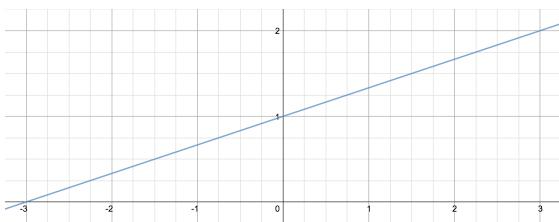


7) Which graph represents the function $y = \frac{2}{3}x + 1$

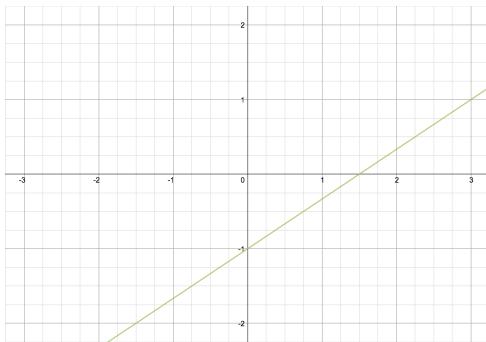
a) $y = \frac{2}{3}x + 1$



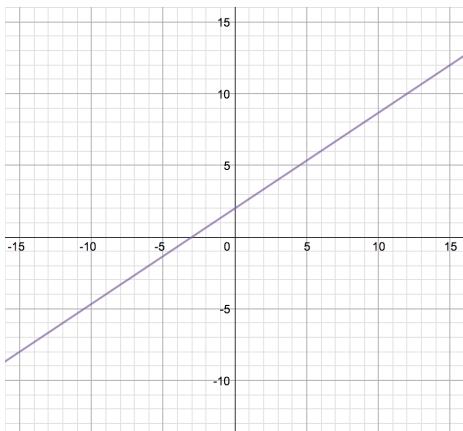
b) $y = \frac{2}{3}x + 1$



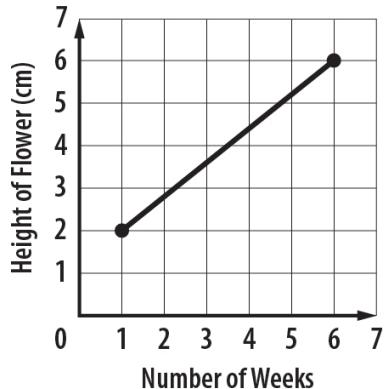
c) $y = \frac{2}{3}x + 1$



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 2, the flower grows at a rate of 2cm 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*