

Name _____

Mrs. Haslbauer

Date _____

Support 8R

Review for Functions Quiz

1. List the domain and range of the relation represented in the table below.

x	y
0	1
-1	5
-2	10
-3	15

Domain: _____

Range: _____

2. List the domain and range of the relation represented in the table below.

x	y
-9	1
8	5
-5	-7
6	9

Domain: _____

Range: _____

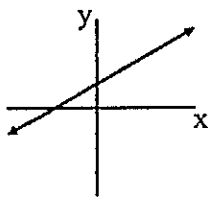
3. Which of the follow relations is a function?

- A) $\{(1,2), (3,4), (1,5)\}$
- B) $\{(2,2), (3,2), (4,2)\}$
- C) $\{(3,4), (3,6), (3,8)\}$
- D) $\{(4,5), (5,6), (4,8)\}$

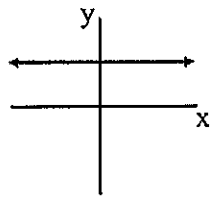
4. Which of the following relations is NOT a function?

- A) $\{(2,1), (3,2), (4,3)\}$
- B) $\{(1,2), (2,3), (3,4)\}$
- C) $\{(5,6), (6,7), (8,9)\}$
- D) $\{(-7,8), (7,6), (-7,9)\}$

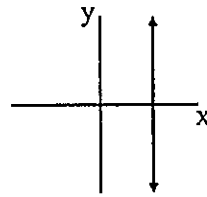
5. Identify if the graphs below represent a function. Write "function" or "not a function".



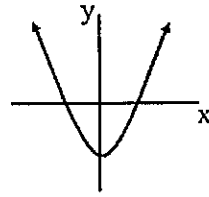
a.



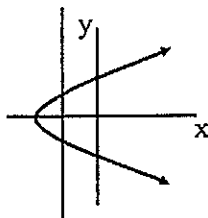
b.



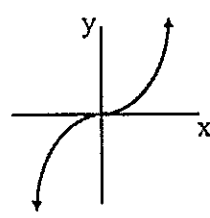
c.



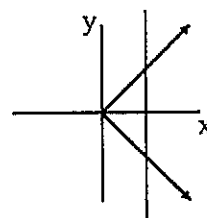
d.



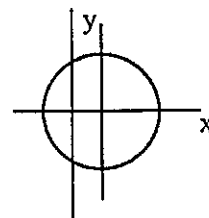
e.



f.

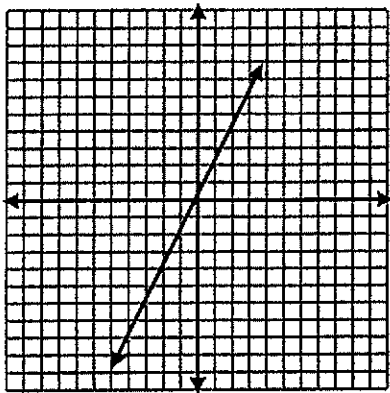


g.

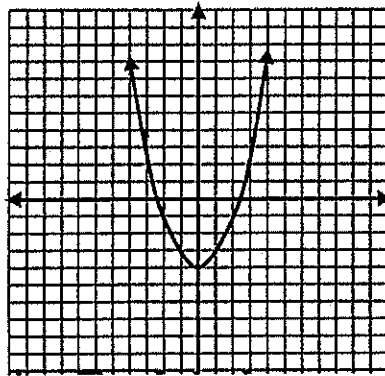


h.

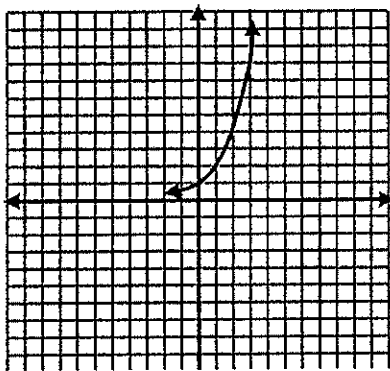
6. Identify the graphs below as linear or non-linear.



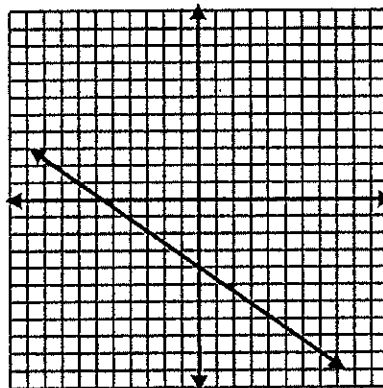
a.



b.

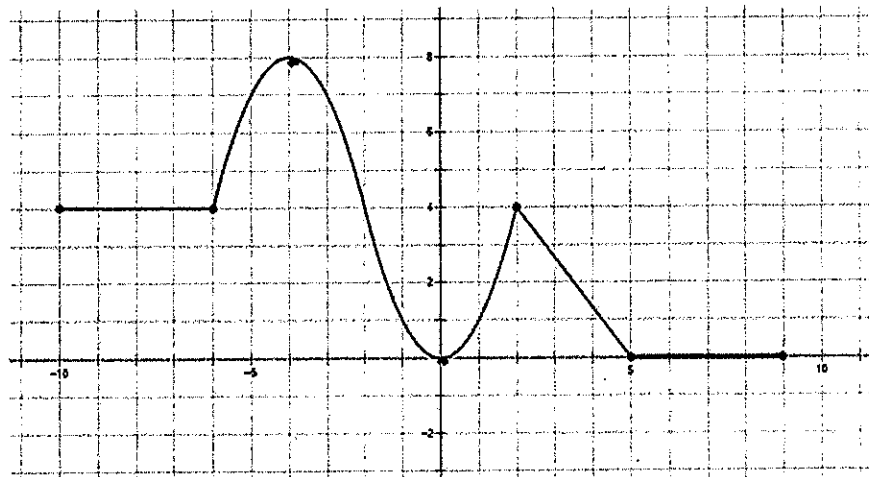


c.



d.

7. Identify the intervals on the graph below based on the descriptions.



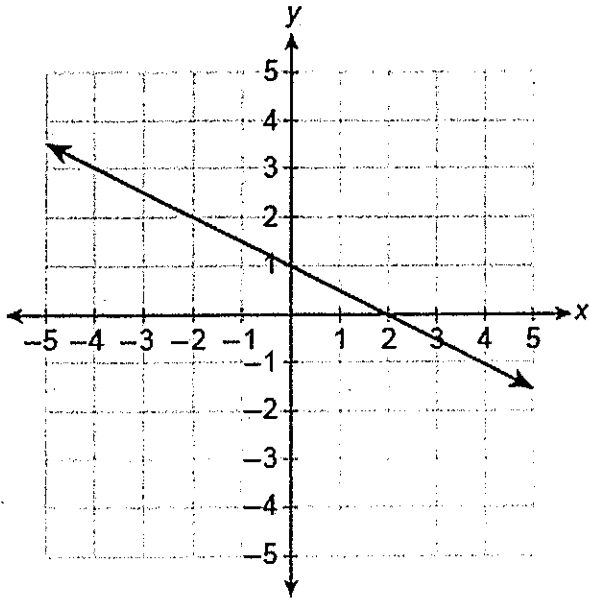
a. For what x-values is the graph linear and decreasing?

From $x =$ _____ to $x =$ _____

b. For what x-values is the graph non-linear and increasing?

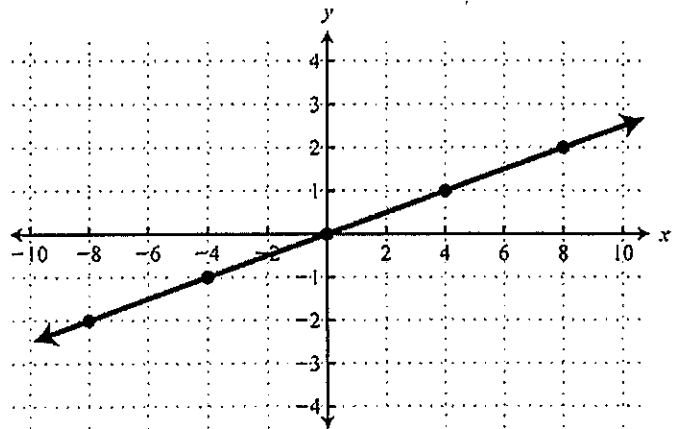
From $x =$ _____ to $x =$ _____ AND $x =$ _____ to $x =$ _____

8. Determine the rate of change for the graph below.



R.O.C.: _____

9. Determine the rate of change for the graph below.



R.O.C.: _____

10. Nicholas mows lawns over the summer and saves the same amount of money each week in his bank account. The amount of money he saved after different numbers of months is shown in the following table.

Months of savings, x	Total Amount saved (in \$), y
6	500
8	1300
10	2100
12	2900

Part A: Determine the rate of change for the function. _____

Part B: Determine the y -intercept for the function. _____

Part C: Write the equation that represents this function in $y = mx + b$ form. _____

11. The table below shows the number of revolutions that occur by the "second" hand of a clock every hour.

Hour	Second Hand Revolutions
1	60
2	120
3	180
4	240
5	300

Part A: Determine the rate of change for the function. _____

Part B: Determine the y-intercept for the function. _____

Part C: Write the equation that represents this function in $y = mx + b$ form. _____

Review for Functions Quiz

1. List the domain and range of the relation represented in the table below.

* list #'s in numerical order
* Don't list any repeats
* use { }

x-values y-values

x	y
0	1
-1	5
-2	10
-3	15

Domain: {-3, -2, -1, 0}
Range: {1, 5, 10, 15}

2. List the domain and range of the relation represented in the table below.

* list #'s in numerical order
* Don't list any repeats
* use { }

x-values y-values

x	y
-9	1
8	5
-5	-7
6	9

Domain: {-9, -5, 6, 8}
Range: {-7, 1, 5, 9}

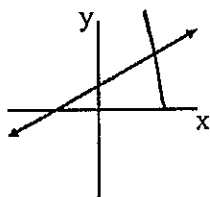
3. Which of the follow relations is a function? → x-values do not repeat

- A) {(1,2), (3,4), (1,5)}
- B) {(2,2), (3,2), (4,2)}** * y-values can repeat
- C) {(3,4), (3,6), (3,8)}
- D) {(4,5), (5,6), (4,8)}

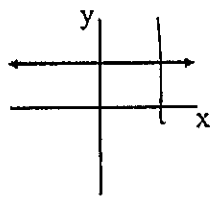
4. Which of the following relations is NOT a function?

- A) {(2,1), (3,2), (4,3)}
- B) {(1,2), (2,3), (3,4)}
- C) {(5,6), (6,7), (8,9)}
- D) {(-7,8), (7,6), (-7,9)}** → b/c the x-values repeat

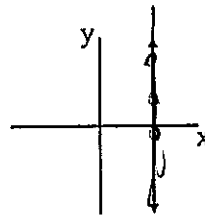
5. Identify if the graphs below represent a function. Write "function" or "not a function".



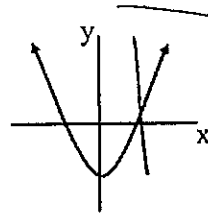
a. Function



b. Function

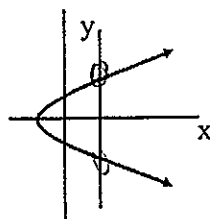


c. NOT a Function

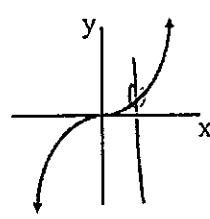


d. Function

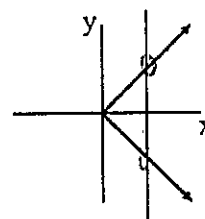
→ passes the vertical line test (intersects only ONE time)



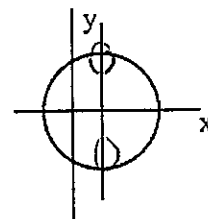
e. NOT a Function



f. Function



g. NOT a Function

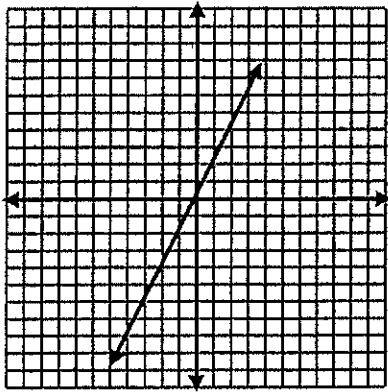


h. NOT a Function

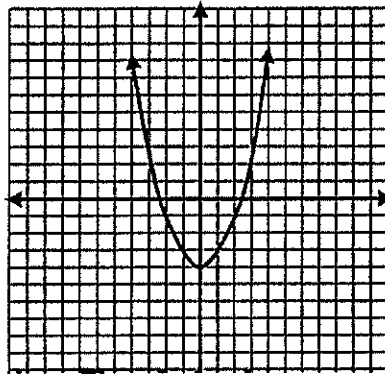
→ fails the vertical line test (intersects more than one pt)

→ straight line

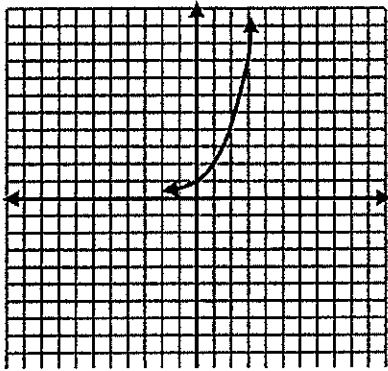
6. Identify the graphs below as linear or non-linear. → not a straight line



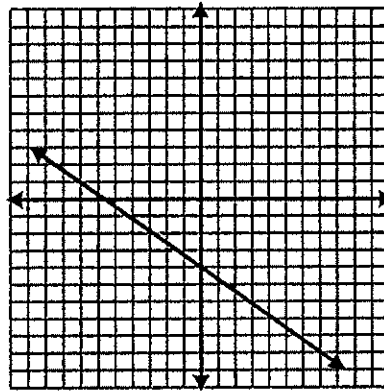
a. linear



b. NON-linear

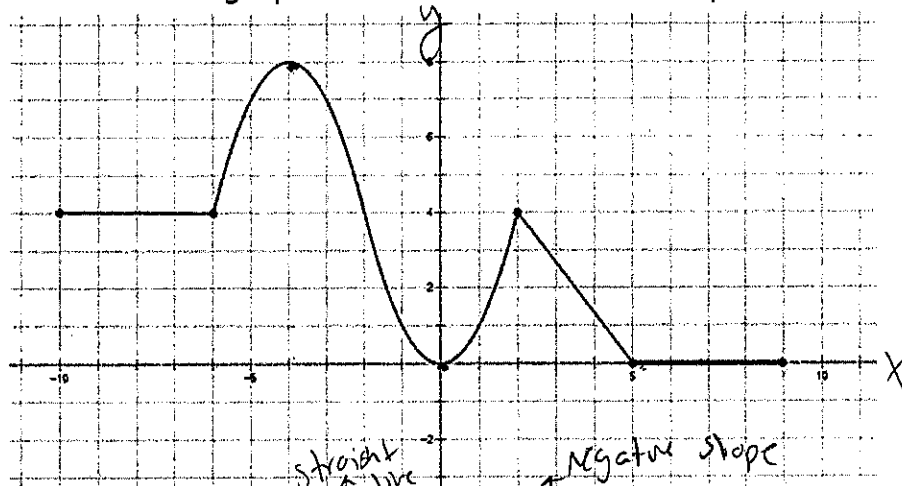


c. NON-linear



d. linear

7. Identify the intervals on the graph below based on the descriptions.



straight line

negative slope

a. For what x-values is the graph linear and decreasing?

From x = 2 to x = 5
start finish

b. For what x-values is the graph non-linear and increasing?

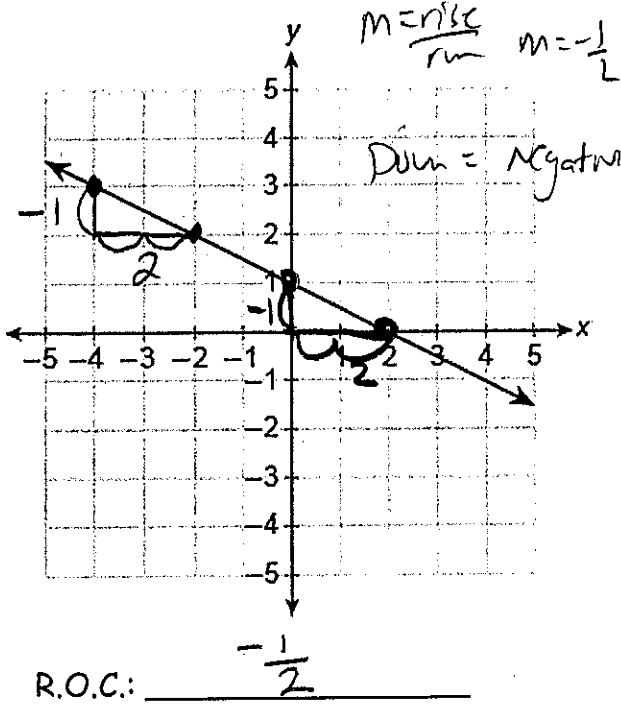
From x = -6 to x = -4 AND x = 0 to x = 2
start finish start finish

not a straight line

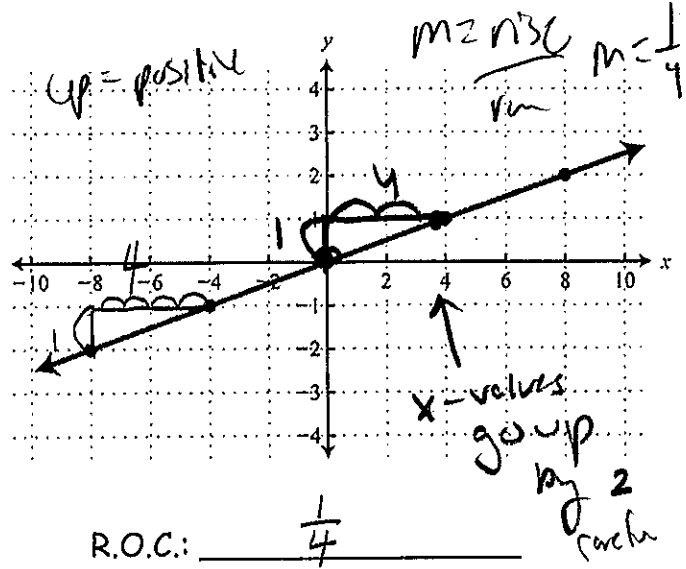
positive slope

$$\text{slope} = \frac{\text{rise}}{\text{run}}$$

8. Determine the rate of change for the graph below.



9. Determine the rate of change for the graph below.



10. Nicholas mows lawns over the summer and saves the same amount of money each week in his bank account. The amount of money he saved after different numbers of months is shown in the following table.

Months of savings, x	Total Amount saved (in \$), y
6	500
8	1300
10	2100
12	2900

Part A: Determine the rate of change for the function. 400

$(6, 500)$ $(8, 1300)$
 x_1, y_1 x_2, y_2 $m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{1300 - 500}{8 - 6} = \frac{800}{2} = 400$

Part B: Determine the y-intercept for the function. -1900

$(6, 500)$
 x, y
 $m = 400$
 $y = mx + b$
 $500 = 400(6) + b$
 $500 = 2400 + b$
 $2400 - 2400$
 $-1900 = b$

Part C: Write the equation that represents this function in $y = mx + b$ form. $y = 400x - 1900$

$y = mx + b$
 $m = 400$
 $b = -1900$

11. The table below shows the number of revolutions that occur by the "second" hand of a clock every hour.

Hour	Second Hand Revolutions
1	60
2	120
3	180
4	240
5	300

Part A: Determine the rate of change for the function. 60

$$\begin{array}{cc} (1, 60) & (2, 120) \\ x_1 & y_1 \quad x_2 & y_2 \end{array}$$

$$m = \frac{y_2 - y_1}{x_2 - x_1} \quad m = \frac{120 - 60}{2 - 1} \quad m = \frac{60}{1} \quad m = 60$$

Part B: Determine the y-intercept for the function. 0

$$\begin{array}{c} (1, 60) \\ x \quad y \end{array}$$

$$m = 60$$

$$\begin{aligned} y &= mx + b \\ 60 &= 60(1) + b \\ 60 &= 60 + b \\ \frac{-60 \quad -60}{0} &= b \end{aligned}$$

Part C: Write the equation that represents this function in $y = mx + b$ form. $y = 60x$

$$\begin{aligned} y &= mx + b \\ m &= 60 \\ b &= 0 \end{aligned}$$