

Name: _____ Period: _____ Date: _____

Algebra Functions Quiz REVIEW

1. Circle all values of x that would make the table not a function.

x	y
-3	5
-1	12
0	6
x	3

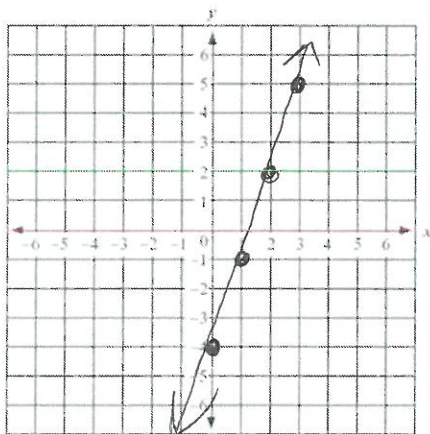
-3 -2
 -1
 0
 1 2 3

2. Graph each function using a table.

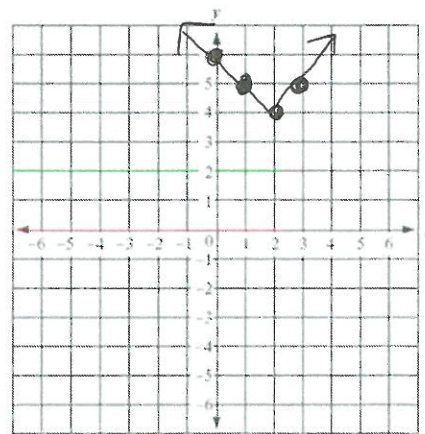
$$f(x) = 3x - 4$$

$$g(x) = |x - 2| + 4$$

x	$f(x)$
0	-4
1	-1
2	2
3	



x	$g(x)$
0	6
1	5
2	4
3	5



3. Evaluate the following using the functions below:

$$f(x) = 2x^2 - 4$$

$$g(x) = 5x - 1$$

$$h(x) = |-3x + 8|$$

$$f(3) = \underline{14}$$

$$h(-2) = \underline{14}$$

$$g(8) = \underline{39}$$

$$h(-4) + g(2) = \underline{29}$$

$20 + 9$

$$-2 \cdot f(1) = \underline{4}$$

$-2 \cdot -2$

$$f(h(2)) = \underline{4}$$

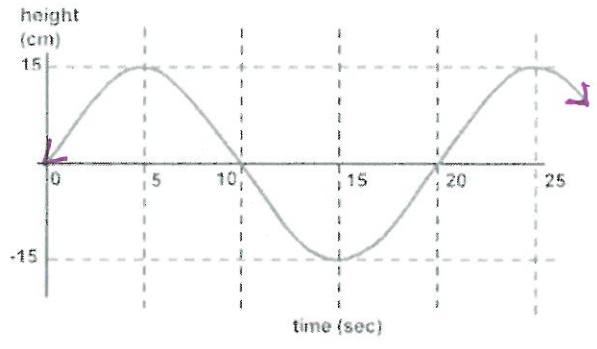
$f(2)$

4.

Domain: $\{x = \mathbb{R}\}$

Range: $\{-15 \leq y \leq 15\}$

Discrete / Continuous (circle one)



5. Girl Scouts sell cookies for a fundraiser for \$7 each. They have 320 boxes to sell. The amount of money they make is based on the number of boxes they sell.

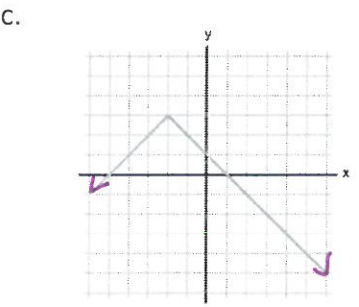
Independent: boxes sold Domain: ~~scribble~~ $\{x = 0, 1, 2 \dots 320\}$

Dependent: Profit (\$) Range: ~~scribble~~ $\{y = 0, 7, 14 \dots 2,240\}$

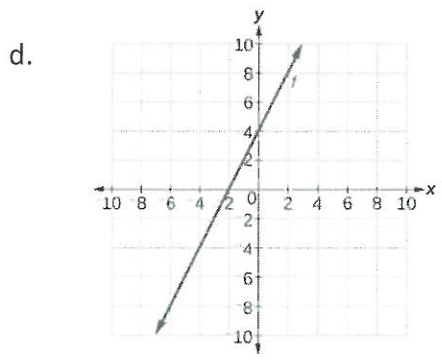
6. Determine whether each function is linear or non-linear. (Circle your answer)

a. $r(s) = 3s + 2$ linear / non-linear

b. $f(x) = 4x^2 + 2$ linear / non-linear



linear
non-linear



linear
non-linear

e.

Input	Output
1	2
2	4
3	6
4	8
5	10
6	12

+1, +1, +1, +1, +1, +1

+2, +2, +2, +2, +2, +2

linear
non-linear

f.

x	y
0	3
2	11
4	19
6	27
8	35

+2, +2, +2, +2, +2

+8, +8, +8, +8, +8

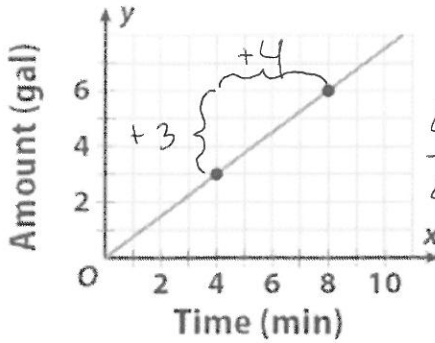
linear
non-linear

7. The amount in the bank account after a certain number of weeks (w) is represented by the function, $B(w)$. What would $B(9) = 62$ mean in the context of this problem?

After 9 weeks there is \$62 in a bank account

8. Find the rate of change of the graph below and explain what it means in the context of the graph.

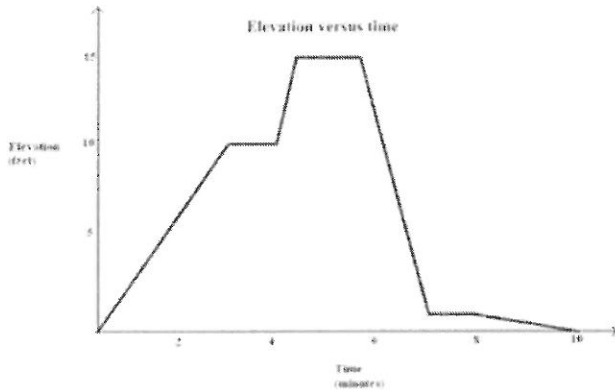
Leaking tank



$$\frac{\Delta y}{\Delta x} = \frac{3}{4} = .75 \text{ gal per min}$$

tank leaks .75 gallons per minute

9. Write a story to match the graph below.

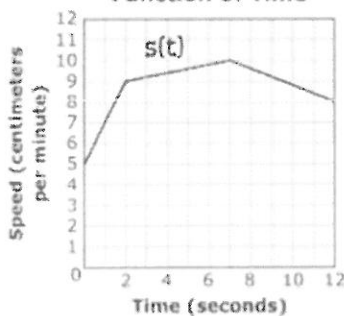


A drone flies up 10 feet in 3 minutes. Then stays at 10 feet for one minute before flying up to 15 feet over 30 seconds. It stays at 15 feet for about 1.5 minutes before descending to 1 foot off the ground over 1 minute, hovering for 1 minute, then landing.

10. Use the graph below

Evaluating a Function From a Graph

Snail Speed as a Function of Time



a. $s(7) = 10$

Explain what each of these means in the context of the problem.

after 7 seconds the snail was traveling at 10 cm per min

b. $s(1) = 7$

After 1 second, the snail was traveling at 7 cm per min