

1. Using the graph of the function $f(x)$ shown below, answer the following questions.

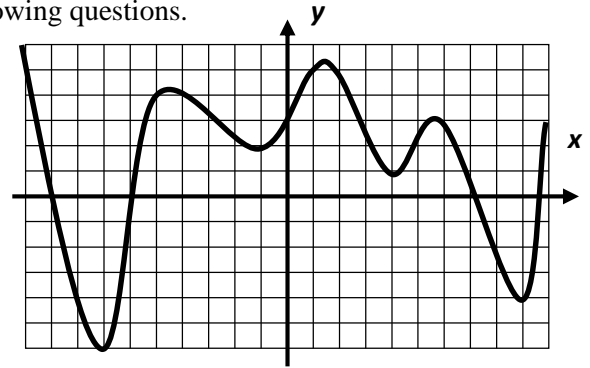
(a) Find the value of each of the following:

$$f(-7) = \quad f(4) = \quad f(0) = \quad f(9) =$$

(b) For how many values of x does $f(x) = 5$? Identify the x -values.

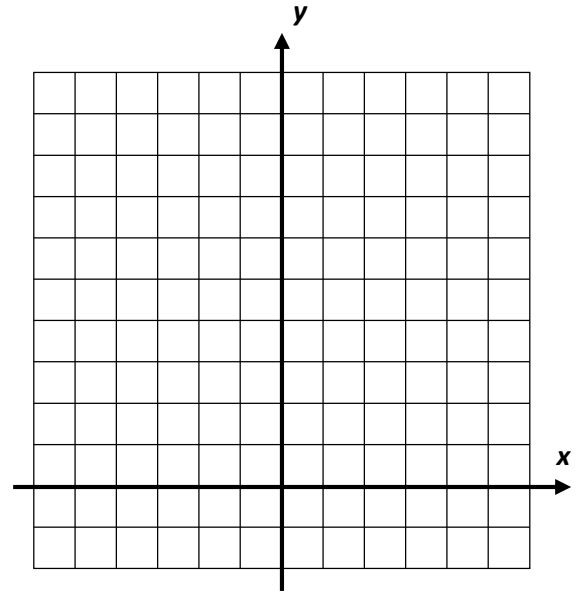
(c) What is the y -intercept of this relation?

(d) Explain why the graph above represents a function.



2. Consider the function $f(x) = 3(2 - x) - 2$. Fill out the function table below for the inputs given and graph the function on the axes provided.

x	$3(2 - x) - 2$	(x, y)
-2		
-1		
0		
1		
2		



*3. The following graph represents the cost of a phone plan after a certain number of text messages used in a month. Analyze the graph to answer the following questions.

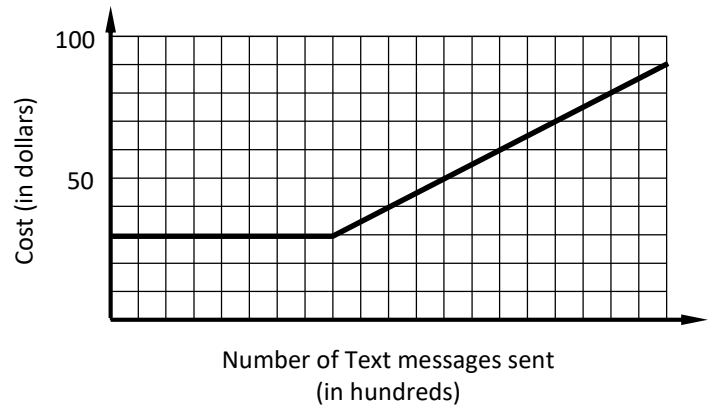
(a) How much would you have to pay if you used:

500 text messages _____

1800 text messages _____

(b) Interpret $f(1400) = 60$

(c) What might have caused the graph to begin increasing at 800 text messages?



*R1. Kelly and Jamie are signing up for new cellphone plans that only charge for the number of minutes and everything else is included in a monthly fee. Their plans are as follows:

Kelly's plan: \$0.20 per minute used talking and a \$23 monthly fee.

Jamie's Plan: \$0.15 per minute used talking and a \$17.50 monthly fee.

- (a) Figure out after how many minutes the two plans will charge the same amount?
 (b) Which plan is the better plan? Why?

*R2. Simplify: $(2x - 1)^2$

R3. Solve for x: $8ax - 7a^2 = 19a^2 - 5ax$

R4. Which value of x is in the solution set of the inequality, $-4x + 2 > 10$?

- (a) -2 (b) 3 (c) 2 (d) -4

1. (a) $f(-7) = -6$

$f(4) = 1$

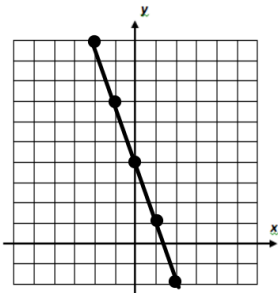
$f(0) = 3$

$f(9) = -4$

- (b) 3 values. -10, 1, 2
 (c) 3
 (d) Every x has only one y

2.

x	(x, y)
-2	(-2, 10)
-1	(-1, 7)
0	(0, 4)
1	(1, 1)
2	(2, -2)



3. (a) 500 text messages = \$30
 1800 text messages = \$80
 (b) 1400 text messages cost \$60
 (c) A flat fee up to 800 text messages then an additional cost per text.

- R1. a. $m = -110$, They will never be the same.
 You can't have negative minutes.
 b. Jamie's plan is always cheaper

R2. $4x^2 - 4x + 1$

R3. $x = 2a$

R4. (d)