F-LE Equal Differences over Equal Intervals 2

Task

a. Complete the table below. Is Δx constant? What constant is it? What do you notice about the 3rd column of the table?

x	$y = 3x - 4$	Δy
1	-1	----
2	2	2 - (-1) = 3
3		
4		
5		

b. Complete the table below. Is Δx constant? What constant is it? What do you notice about the 3rd column of the table?

x	$y = 3x - 4$	Δy
1		---
3		
5		
7		

9		

c. Repeat the construction above the table for the linear equation $y = -2x + 1$. How do your observations in the 3rd column compare to those made for the previous table?

d. Let $y(x) = ax + b$. Let x_0 be any particular x-value. Show that if x_0 is increased by a constant Δx, the corresponding Δy is constant. What is this constant?

e. Is a) an example of the result of d)? Explain.