

Unit 0 HW #11

- 1. Find the slope of the line you would get if you graphed each sequence listed below and connected the points. [Help](#)
 - a. 5, 8, 11, 14, ...
 - b. 3, 9, 15, ...
 - c. 26, 21, 16, ...
 - d. 7, 8.5, 10, ...

- 2. For the line passing through the points $(-2, 1)$ and $(2, -11)$, [Help](#)
 - a. Calculate the slope of the line.
 - b. Find an equation of the line.

- 3. Refer to sequences (c) and (i) in 0.11 Problem 2. [Help](#)

- a. How are these two sequences similar?
- b. The numbers in the sequence in part (e) of 0.11 Problem 2 are called **Fibonacci numbers**. They are named after an Italian mathematician who discovered the sequence while studying how fast rabbits could breed. What is different about this sequence than the other three you discovered?

- 4. Chelsea dropped a bouncy ball off the roof while Nery recorded its rebound height. The table at right shows their data. Note that the 0 in the "Bounce" column represents the starting height. [Help](#)

Bounce	Rebound Height
0	800 cm
1	475 cm
2	290 cm
3	175 cm
4	100 cm
5	60 cm

- a. To what family does the function belong? Explain how you know.
- b. Show the data as a sequence. Is the sequence arithmetic, geometric, quadratic, or something else? Justify your answer.

- 5. For the function $f(x) = \sqrt{3x - 2}$, find the value of each expression below. [Help](#)

- a. $f(1)$
- b. $f(9)$
- c. $f(4)$
- d. $f(0)$
- e. What value of x makes $f(x) = 6$?