**Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Algebra 2 Advanced – Assignment 1-2**

2-43 Find the next three numbers in each sequence and explain the pattern in the sequence.

a. -4, -1, 2, 5, \_\_\_\_\_, \_\_\_\_\_\_, \_\_\_\_\_ b. 1.5, 3, 6, 12, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_

c. 0, 1, 4, 9, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_ d. 2, 3.5, 5, 6.5, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_

e. 1, 1, 2, 3, 5, 8, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_ f. 9, 7, 5, 3, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_

g. 48, 24, 12, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_ h. 27, 9, 3, 1, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_

i. 8, 2, 0, 2, 8, 18, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_ j. 5/4, 5/2, 5, 10, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_

2-46 Find the slope of the line you would get if you graphed each sequence listed below and connected the points.

a. 5, 8, 11, 14, . . . b. 3, 9, 15, . . .

c. 26, 21, 16, . . . d. 7, 8.5, 10, . . .

2-71 Determine whether 447 is a term of each sequence below. If so, which term is it?

a. t(n) = 5n – 3 b. t(n) = 5n

c. t(n) = -6 +3(n-1) d. t(n) = 14 – 3n

e. t(n) = -8 – 7(n-1)

2-73 Find the common difference for each sequence below. Write an expression for the nth term in the sequence in the form

an = a1 + (n – 1)d

a. 4, 7, 10, 13 , . . . b. 3, 8, 13, . . .

c. 24, 19, 14, . . . d. 7, 9.5, 12, . . .

**Review**

Write the equation in slope-intercept form for the line that has the following .

a. slope =  y-int = -3 b. The line contains (0,4) and (1,2)