Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Per: \_\_\_\_\_\_\_\_\_\_ Scores: #1:\_\_\_\_\_

**HW #14**

**Learning Target #1:** “I can recognize that sequences are functions with limited domain.” F-IF-3

**5-64.** Trixie exclaimed, “Hey! Arithmetic sequences are just another name for linear functions.” What do you think? Justify your idea based on multiple representations.

**5-65.** Determine whether 447 is a term of each sequence below. If so, which term is it? Homework Help

$$t(n) = 5n – 3 t(n) = 24 - 5n$$

**Learning Target #3:** “I can construct arithmetic sequences in the four representations: situation, table, graph, and equation, and use them to model situations.” F-LE-2, F-BF-2

**5-58.** Trixie wants to create an especially tricky arithmetic sequence. She wants the 5th term of the sequence to equal 11 and the 50th term to equal 371. That is, she wants t(5) = 11 and t(50) = 371. Is it possible to create an arithmetic sequence to fit her information? If it is possible, find the equation, the initial value t(0), and the common difference for the arithmetic sequence. If it is not possible, explain why not.

**5-59.** Seven years ago, Kodi found a box of old baseball cards in the garage. Since then, he has added a consistent number of cards to the collection each year. He had 52 cards in the collection after 3 years and now has 108 cards.

1. How many cards were in the original box? Is this *t*(0) or *t*(1)?  Write the first few terms
of the sequence.
2. Kodi plans to keep the collection for a long time. How many cards will the collection contain 10 years from now?
3. Write an equation that determines the number of cards in the collection after *n*years. What does each number in your equation represent?

**5-67.** Find the sequence generator for each sequence listed below. Write an equation for the nth term in each sequence below, keeping in mind that the first term of each sequence is t(1). Homework Help ✎

4, 7, 10, 13, … 3, 8, 13, …

**Review:**

**5-70.** Write an equation or system of equations and solve the problem below.

The French club sold rose bouquets and chocolate hearts for Valentine’s Day. The roses sold for $5 and the hearts sold for $3. The number of bouquets sold was 15 more than the number of hearts sold. If the club collected a total of $339, how many of each gift was sold?

**5-25**. Determine the domain and range of each of the following graphs. Homework Help ✎

5-16. Write the equation of each line described below. Homework Help ✎

1. Goes through the points $(2,3) and (3,1).$
2. Goes through the points (6, -5) and (-4, 10).