**3-5 Practice**

***Arithmetic Sequences as Linear Functions***

**Determine whether each sequence is an arithmetic sequence. Write *yes* or *no*. Explain.**

 **1.** 21, 13, 5, –3, . . . **2.** –5, 12, 29, 46, . . . **3.** –2.2, –1.1, 0.1, 1.3, . . .

**Find the next three terms of each arithmetic sequence.**

 **4.** 82, 76, 70, 64, . . . **5.** –49, –35, –21, –7, . . . **6.** $\frac{3}{4}$, $\frac{1}{2}$, $\frac{1}{4}$, 0, . . .

**Write an equation for the *n*th term of each arithmetic sequence.**

**7.** 9, 13, 17, 21, . . . **8.** –5, –2, 1, 4, . . . **9.** 19, 31, 43, 55, . . .

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**10. BANKING** Chem deposited $115.00 in a savings account. Each week thereafter, he deposits $35.00 into the account.

1. Write a function to represent the total amount Chem has deposited for any particular number of weeks after his initial deposit.

 **b.** How much has Chem deposited 30 weeks after his initial deposit?

**11. STORE DISPLAYS** Tamika is stacking boxes of tissue for a store display. Each row of tissues has 2 fewer boxes than the row below. The first row has 23 boxes of tissues.

 **a.** Write a function to represent the arithmetic sequence.

1. How many boxes will there be in the tenth row?

**7-7 - Skills Practice**

***Geometric Sequences as Exponential Functions***

**Determine whether each sequence is *arithmetic, geometric,* or *neither.* Explain.**

 **1.** 7, 13, 19, 25, … **2.** –96, –48, –24, –12, …

 **3.** 108, 66, 141, 99, … **4.** 3, 9, 81, 6561, …

 **5**. $\frac{7}{3}$, 14, 84, 504, … **6**. $\frac{3}{8}$, – $\frac{1}{8}$, – $\frac{5}{8}$, – $\frac{9}{8}$, …

**Find the next three terms in each geometric sequence.**

 **7.** 2500, 500, 100, … **8. -**2, 6, -18, …

 **9.** –4, 24, –144, … **10.** $\frac{4}{5}$, $\frac{2}{5}$, $\frac{1}{5}$, …

 **11.** Write an equation for the *n*th term of the geometric sequence 3, – 24, 192, ….

 Find the ninth term of this sequence.

 **12.** Write an equation for the *n*th term of the geometric sequence 1000, 200, $\frac{1}{4}$, ….

 Find the fifth term of this sequence.

 **13.** Write an equation for the *n*th term of the geometric sequence 32, 48, 72, ….

 Find the sixth term of this sequence.

 **14.** Write an equation for the *n*th term of the geometric sequence $\frac{3}{100}$, $\frac{3}{10}$, 3, ….

 Find the ninth term of this sequence.