Answers to Algebra 1 Unit 1 Practice

1. Answers may vary. The year increases by 7 each time the occurrence number increases by 1.

2. 1949, 1956, 1963, 1970, …; the common difference is 7.

3. C

4. Answers may vary. A typical person lives to about 70 years old; the comet would be visible about 7 times during this time.

5. 1998

6.

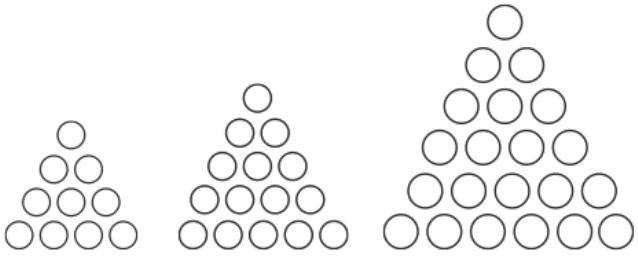
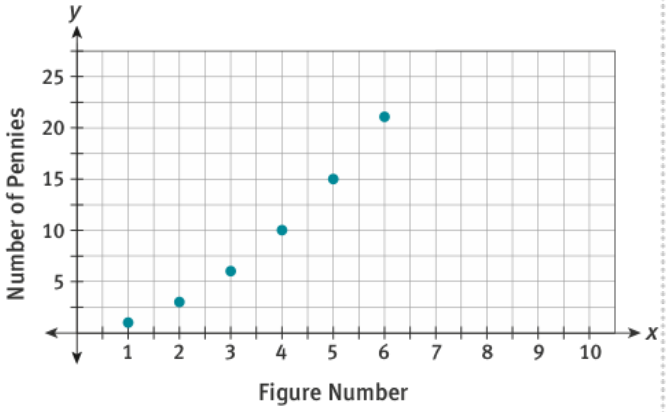


Figure 4 **Figure 5** **Figure 6**

Figure Number	Number of Pennies
1	1
2	3
3	6
4	10
5	15
6	21

7.



8. 1, 3, 6, 10, 15, 21, …; no; consecutive terms do not differ by the same amount.

9. a.

n	Emilio's Expression
1	2
2	6
3	12
4	20
5	30
6	42

Emilio's expression does not give the correct number of pennies in each figure.

b. Emilio's expression gives values that are twice the number of pennies in each figure. Therefore, divide Emilio's expression by 2 (or multiply by $\frac{1}{2}$) to find the correct expression; $\frac{n(n+1)}{2}$, or $\frac{1}{2}n(n+1)$, or $\frac{n}{2}(n+1)$.

10. C

11. Figure 13; Figure 13 contains $\frac{13(14)}{2} = 91$ pennies, so you will have 9 pennies left over. Figure 14 requires $\frac{14(15)}{2} = 105$ pennies, which is more than you have.