63. **HONEYCOMBS** Domestic bees make their honeycomb by starting with a single hexagonal cell, then forming ring after ring of hexagonal cells around the initial cell, as shown. The numbers of cells in successive rings form an arithmetic sequence.

   a. Write a rule for the number of cells in the nth ring.

   b. What is the total number of cells in the honeycomb after the 9th ring is formed? (*Hint:* Do not forget to count the initial cell.)

   TEXAS @HomeTutor for problem solving help at classzone.com

Initial   1 ring   2 rings
cell

64. **MARCHING BAND** A marching band is arranged in 7 rows. The first row has 3 band members, and each row after the first has 2 more band members than the row before it. Write a rule for the number of band members in the nth row. Then find the total number of band members.

   TEXAS @HomeTutor for problem solving help at classzone.com

65. **SCULPTURE** Sol LeWitt's sculpture *Four-Sided Pyramid* in the National Gallery of Art Sculpture Garden is made of concrete blocks. As shown in the diagram, each layer has 8 more visible blocks than the layer in front of it.

   a. Write a rule for the number of visible blocks in the nth layer where $n = 1$ represents the front layer.

   b. When you view the pyramid from one corner, a total of 12 layers are visible. How many of the pyramid's blocks are visible?

66. ◆ **MULTIPLE REPRESENTATIONS** The distance D (in feet) that an object falls in t seconds can be modeled by $D(t) = 16t^2$.

   a. **Making a Table** Let $d(n)$ represent the distance the object falls in the nth second. Make a table of values showing $d(1)$, $d(2)$, $d(3)$, and $d(4)$. (*Hint:* The distance $d(1)$ that the object falls in the first second is $D(1) - D(0)$.)

   b. **Writing a Rule** Write a rule for the sequence of distances given by $d(n)$.

   c. **Drawing a Graph** Graph the sequence from part (b).

67. **ENTERTAINMENT** During a high school spirit week, students dress up in costumes. A cash prize is given each day to the student with the best costume. The organizing committee has $1000 to give away over five days. The committee wants to increase the amount of the prize by $50 each day. How much should the committee give away on the first day?

○ = **WORKED-OUT SOLUTIONS**
   on p. WS1

↓ = **TAKS PRACTICE**
   AND REASONING

◆ = **MULTIPLE**
   REPRESENTATIONS