

Name \_\_\_\_\_

# 1-8B Lesson Master

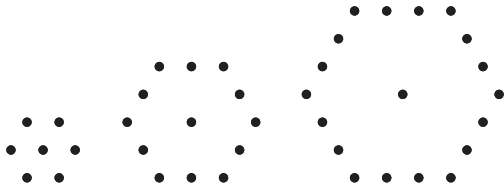
**Questions on SPUR Objectives**  
See Student Edition pages 66–69 for objectives.

## VOCABULARY

1. Tell if each statement is *true* or *false*.
  - a. Every sequence is a function. \_\_\_\_\_
  - b. The domain of a sequence is the set of integers. \_\_\_\_\_
2. Consider the sequence 2, 3, 5, 6, 11, 13, 17, 19, ....
  - a. Tell how  $p_5 = 11$  is read. \_\_\_\_\_
  - b. Name the third term. \_\_\_\_\_
  - c. What is  $p_8$ ? \_\_\_\_\_

## SKILLS Objective E

3. The numbers of dots in each group of dots form a sequence.



- a. Draw the next pattern in the sequence of dots above.
- b. State the number of dots in the first four terms of the sequence. \_\_\_\_\_
- c. Determine the number of dots in the tenth term of the sequence. \_\_\_\_\_

In 4–7, find a. the first four terms of the sequence and b. the 73rd term of the sequence. If necessary, round to the nearest hundredth.

4.  $v_n = \frac{3}{n}$       a. \_\_\_\_\_      b. \_\_\_\_\_
5.  $W_n = 8n - 14$       a. \_\_\_\_\_      b. \_\_\_\_\_
6.  $r_n = 212 + 1.8n^2$       a. \_\_\_\_\_      b. \_\_\_\_\_
7.  $c_n = 1.03^n$       a. \_\_\_\_\_      b. \_\_\_\_\_

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8. Consider the sequences  $h_n = 2n^2 - 20$  and  $j_n = 18n$ .

a. Find  $h_6 - j_6$ . \_\_\_\_\_

b. For what value of  $n$  does  $h_n = j_n$ ? \_\_\_\_\_

**REPRESENTATIONS** Objective L

9. Consider the sequence  $u_n = \frac{\sqrt{5n^2}}{12+n}$ .

a. Use a CAS to generate terms 20 through 25. Complete the table at the right, rounding to the nearest thousandth.

b. Which term of the sequence has a value closest to 1.2?

\_\_\_\_\_

$n$	$t_n$
20	
21	
22	
23	
24	
25	

10. During a sidewalk sale, Abigail’s Designs has a “sliding-scale” sale on all merchandise. At the end of each hour, prices are reduced 10%. This means that the sale price of a \$100 dress after hour  $h$  is given by  $p_h = 100(0.9)^h$ .

a. Use a CAS to generate the sale price of the \$100 dress at the end of the first 5 hours. Complete the table at the right.

b. At the end of what hour will the price of the dress first drop to less than half of the original price?

\_\_\_\_\_

Hour	Sale Price
1	
2	
3	
4	
5	

11. Beth Garcia’s beginning annual salary at Dontel Services is \$42,000. She is promised an increase of 4% at the end of each year. So,  $S_n = 42,000(1.04)^{n-1}$  gives Beth’s salary in her  $n$ th year. Round your answers to the nearest dollar.

a. Complete the table to show Beth’s salary for the first four years.

b. What will Beth’s salary be in her tenth year at Dontel?

\_\_\_\_\_

Year	Salary
1	
2	
3	
4	