

# Sequences

Name \_\_\_\_\_

## Key Concept and Vocabulary

A **sequence** is a series of numbers. Each number in a sequence is called a **term**. You can identify patterns to find missing terms of a sequence.

Each term is 2 more than the previous term.



Sequence:

3, 5, 7, 9, ?, ?, ...

+2 +2 +2 +2 +2

Fifth term:  $9 + 2 = 11$   
Sixth term:  $11 + 2 = 13$



## PRACTICE MAKES PURR-FECT™

Check your answers at [BigIdeasMath.com](http://BigIdeasMath.com).

Find the sixth term of the sequence.

1. 0, 1, 2, 3, ...

5

2. 100, 90, 80, 70, ...

50

3. 8, 16, 32, 64, ...

256

4. 9, 3, 1,  $\frac{1}{3}$ , ...

$\frac{1}{27}$

Find the tenth term of the sequence.

5. 9.2, 8.8, 8.4, 8.0, ...

5.6

6.  $\frac{1}{2}, \frac{3}{2}, \frac{5}{2}, \frac{7}{2}, \dots$

$\frac{19}{2}$

7. 256, 128, 64, 32, ...

$\frac{1}{2}$

8.  $\frac{1}{25}, \frac{1}{5}, 1, 5, \dots$

78,125

9. **PAY RATE** Your boss pays you \$0.03 the first day you work, \$0.06 the second day, \$0.12 the third day, \$0.24 the fourth day, and so on. How much do you earn on the seventh day? fourteenth day?

\$1.92; \$245.76

10. **BACTERIA** The table shows the number of bacteria in a sample for consecutive hours. Write the first eight terms of the sequence for the population. Interpret the eighth term.

Time	1 P.M.	2 P.M.	3 P.M.	4 P.M.
Bacteria	10	100	1000	10,000

10, 100, 1000, 10,000, 100,000, 1,000,000, 10,000,000, 100,000,000;  
At 8 P.M., there will be 100,000,000 bacteria in the sample.