

# Practice

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## Arithmetic Sequences

Determine whether each sequence is an arithmetic sequence.

If so, find the common difference and the next three terms.

1.  $-10, -7, -4, -1, \dots$

2.  $0, 1.5, 3, 4.5, \dots$

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3.  $5, 8, 12, 17, \dots$

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4.  $-20, -20.5, -21, -21.5, \dots$

Find the indicated term of each arithmetic sequence.

5. 28th term:  $0, -4, -8, -12, \dots$

6. 15th term:  $2, 3.5, 5, 6.5, \dots$

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7. 37th term:  $a_1 = -3; d = 2.8$

\_\_\_\_\_

8. 14th term:  $a_1 = 4.2; d = -5$

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9. 17th term;  $a_1 = 2.3; d = -2.3$

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10. 92nd term;  $a_1 = 1; d = 0.8$

11. A movie rental club charges \$4.95 for the first month's rentals. The club charges \$18.95 for each additional month. How much is the total cost for one year? \_\_\_\_\_

12. A carnival game awards a prize if Kasey can shoot a basket. The charge is \$5.00 for the first shot, then \$2.00 for each additional shot. Kasey needed 11 shots to win a prize. What is the total amount Kasey spent to win a prize? \_\_\_\_\_

**Find the indicated term of each arithmetic sequence.**

1. Darnell has a job and is saving his paychecks each week.

<b>Weeks</b>	1	2	3	4
<b>Savings</b>	\$130	\$260	\$390	\$520

How much will Darnell have saved after 11 weeks?

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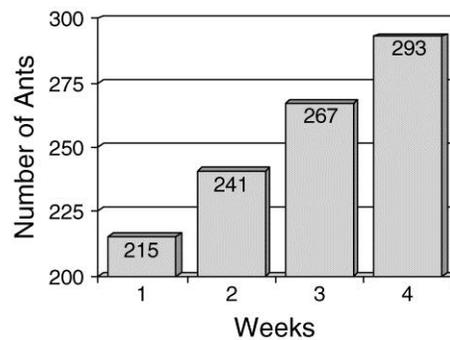
3. A new car costs \$13,000 and is depreciating by \$900 each year. How much will the car be worth after 4 years?
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2. A tube containing 3 ounces of toothpaste is being used at a rate of 0.15 ounces per day. How much toothpaste will be in the tube after one week?
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4. Jessie is playing an arcade game that costs 50¢ for the first game and 25¢ to continue if she loses. How much will she spend on the game if she continues 9 times?
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**Use the graph below to answer questions 5–9. The graph shows the size of Ivor’s ant colony over the first four weeks. Assume the ant population will continue to grow at the same rate. Select the best answer.**

**Ivor’s Ant Farm**



5. Which of the following shows how many ants Ivor will have in the next three weeks?
- A 315, 341, 367  
 B 317, 343, 369  
 C 318, 334, 350  
 D 319, 345, 371
6. Which rule can be used to find how large the colony will be in  $n$  weeks?
- F  $a_n = 215 + 26n$   
 G  $a_n = 215n + 26$   
 H  $a_n = 215(n - 1) + 26$   
 J  $a_n = 215 + 26(n - 1)$
7. How many ants will Ivor have in 27 weeks?
- A 891                      C 5616  
 B 917                        D 5831
8. Ivor’s ants weigh 1.5 grams each. How many grams do all of his ants weigh in 13 weeks?
- F 660.5                      H 722  
 G 683                        J 790.5
9. When the colony reaches 1385 ants, Ivor’s ant farm will not be big enough for all of them. In how many weeks will the ant population be too large?
- A 45                            C 47  
 B 46                            D 48