CHAPTER Quiz

12 Lessons 12-4 to 12-5

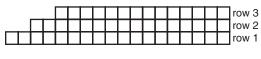
Select the best answer.

- 1. What is the common ratio of the sequence $\frac{3}{100}$, $\frac{3}{50}$, $\frac{3}{25}$, $\frac{3}{12.5}$,...?
 - **A** $\frac{1}{2}$

C 2

- **B** $\frac{3}{2}$
- 2. A colony of bees produced 15 pounds of honey in the first year. As the colony grows, it produces 9% more honey each year. Approximately how much honey will the colony produce during the 7th year?
 - **F** 24 lb
- H 27 lb
- **G** 25 lb
- **3.** What is S_6 for the geometric series 0.25 0.75 + 2.25 6.75 + ...?
 - **A** −60.75
- **C** 22
- B 45.5
- 4. What is the geometric mean of
 - $-5 \text{ and } -\frac{5}{16}$?
 - **F** $\pm \frac{16}{25}$
- $H \pm \frac{5}{4}$
- $\mathbf{G}\ \pm\frac{4}{5}$
- **5.** A garden produces 20 tomatoes the first year. The garden produces 5% more tomatoes each year. How many tomatoes, total, does the garden produce during the first 10 years?
 - **A** 226
- **C** 283
- **B** 251
- **6.** What is the 12th term of the geometric sequence where $a_7 = 7$ and $a_{10} = -56$?
 - **F** -448
- **H** -112
- G 22

- 7. At the end of the first year, a tree is 6 feet tall. At the end of the second and third years, the tree is 9 and 10.5 feet tall. Assume the tree's height follows a geometric series. What is the maximum height of the tree?
 - **A** 12 ft
- **C** 24 ft
- **B** 18 ft
- 8. Which series below converges?
 - **F** 2 + 3 + 4.5 + ...
 - **G** 100 + 80 + 64 + ...
 - **H** 1 2 + 4 ...
- 9. Identify the counterexample which disproves the statement $n^4 \le 4^n$.
 - **A** n = -1
- **C** n = 0
- **B** n = 0.5
- 10. The first three rows of a pattern are shown below. This pattern will continue for higher rows. How many cubes will have been used when the project is finished?



F 80

H 90

- **G** 88
- 11. What is the approximate sum of the

geometric series $\sum_{w=1}^{\infty} 12 \left(\frac{3}{5}\right)^{w}$?

A 18

C 30

- **B** 27
- 12. An infinite geometric series has a sum of 200 and a common ratio of $\frac{4}{5}$. Which is the first term of this series?
 - **F** 40
- **H** 100
- **G** 80

Answer Key Algebra 2

CHAPTER 12

Section Quiz Lessons 12-4 Through 12-5

1. C

7. A

2. G

8. G

3. B

9. A

4. H

10. H

5. B

11. A

6. G

12. F