Algebra 2B
Practice Quiz on 9-3 & 9-5

Name:_____
Date:_____ **Hr:** _____

SHOW ALL WORK

For #1-2, a.) determine whether each sequence is geometric. b.) If so, find the common ratio.

1. 1, -2, 4, -8, …

1. a.) _____
   b.) _____

2. 18, 6, 2, $\frac{2}{3}$, …

2. a.) _____
   b.) _____

For #3-4, find the 8th term of each geometric sequence.

3. 10, 5, 2.5, …

3. _____

4. -30, 7.5, -1.875, …

4. _____

For #5-6, find the missing term of each geometric sequence. It could be the geometric mean or its opposite.

5. 3, _____ , 0.75

5. _____

6. 12.5, a.)_____, b.)_____, c.)_____, 5.12, …

6. a.)_____
   b.) _____
   c.)_____

For #7-9, evaluate the sum of the finite geometric series.

7. $\frac{1}{5}+\frac{1}{10}+\frac{1}{20}+\frac{1}{40}+\frac{1}{80}$

7. _____

8. -5 – 10 – 20 – 40 … -2560

8. _____

9. $\sum_{n=1}^{5}\left(\frac{1}{3}\right)^{n-1}$

9. _____

For #10-12, a.) determine whether each infinite geometric series diverges or converges. b.) If the series converges, state the sum.

10. 4 + 2 + 1 + …

10. a.) _____

b.) _____

11. 1 – 1 + 1 – …

11. a.) _____

b.) _____

12. $\sum_{n=1}^{\infty}\left(-\frac{1}{2}\right)^{n-1}$

12. a.) _____

b.) _____

For #13-14, classify the given problem as a.) arithmetic or geometric, a b.) sequence or series, and c.) finite or infinite.

13. 23, 27, 31, 35, 39, ...

13. a.) _____

b.) _____

c.) _____

14. 0.5 + 0.05 + 0.005 + ...

14. a.) _____

b.) _____

c.) _____

15. An athlete is training for a bicycle race. She increases the amount she bikes by the same percent each day. If she bikes 10 mi on the first day, and 12.1 mi on the third day, a.) how much will she bike on the tenth day? b.) What is the total mileage that she has biked after ten days?

15. a.) _____

b.) _____