

Algebra II Worksheet #3 Unit 9 page 1 _____

For a particular arithmetic sequence $a_1 = 5$ and $d = 3$. Answer the following questions.

1. What are the first five terms of the sequence? _____
2. What is the recursive formula for the sequence? _____
3. What is the explicit formula for the sequence? _____
4. What is the 50th term in the sequence? _____
5. If $a_n = 86$, then what is the value of n ? _____

For a particular geometric sequence $a_1 = 3$ and $r = 2$. Answer the following questions.

6. What are the first five terms of the sequence? _____
7. What is the recursive formula for the sequence? _____
8. What is the explicit formula for this sequence? _____
9. What is the 10th term in the sequence? _____

Find each of the following.

10. 3 arithmetic means between 7 and 27 _____
11. 5 arithmetic means between 2 and 20 _____
12. 4 arithmetic means between 1 and 9 _____
13. the arithmetic mean of 3 and 10 _____

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Find each of the following.

14. 2 geometric means between 2 and 54 _____

15. 3 geometric means between 5 and 80 _____

16. 2 geometric means between 8 and 125 _____

17. the geometric mean of 4 and 25 _____

Solve each of the following problems.

18. A particular job has a starting salary of \$40,000 per year with a guaranteed raise of \$1000 per year. What will be the salary for the 8th year? _____

19. A particular job has a starting salary of \$40,000 per year with a guaranteed 2.5% raise per year. What will be the salary for the 8th year? _____

20. A ball is dropped from a height of 100 inches onto a concrete floor. On each bounce the ball rebounds to 70% of its previous height. How high will the ball bounce after it hits the floor for the tenth time? _____