Name _____ Date _____ Class _____

LESSON 9-1

Practice

Introduction to Sequences

Find the first 5 terms of each sequence.

1. $a_1 = 1,\ a_n = 3\ (a_{n-1})$

2. $a_1 = 2,\ a_n = 2\ (a_{n-1} + 1) - 5$

3. $a_1 = -2,\ a_n = (a_{n-1})^2 - 1$

4. $a_1 = 1,\ a_n = 6 - 2(a_{n-1})$

5. $a_1 = -1,\ a_n = (a_{n-1} - 1)^2 - 3$

6. $a_1 = -2,\ a_n = \dfrac{2 - a_{n-1}}{2}$

7. $a_n = (n - 2)(n + 1)$

8. $a_n = n(2n - 1)$

9. $a_n = n^3 - n^2$

10. $a_n = \left(\dfrac{1}{2}\right)^{n-3}$

11. $a_n = (-2)^{n-1}$

12. $a_n = n^2 - 2n$

Write a possible explicit rule for the *n*th term of each sequence.

13. 8, 16, 24, 32, 40, ...

14. 0.1, 0.4, 0.9, 1.6, 2.5, ...

15. 3, 6, 11, 18, 27, ...

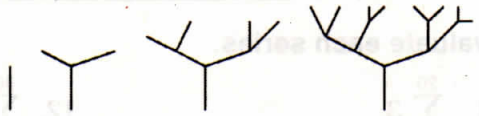
16. $\dfrac{3}{2}, \dfrac{3}{4}, \dfrac{3}{8}, \dfrac{3}{16}, \dfrac{3}{32}, \cdots$

17. –2, 1, 4, 7, 10, ...

18. 5, 1, 0.2, 0.04, 0.008, ...

Solve.

19. Find the number of line segments in the next two iterations. _____



20. Jim charges $50 per week for lawn mowing and weeding services. He plans to increase his prices by 4% each year.

    a. Graph the sequence.

    b. Describe the pattern.

    _____

    c. To the nearest dollar, how much will he charge per week in 5 years?

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