

Algebra II
Sequence 1

Name _____

Write the first six terms of the sequence.

1. $a_n = 6 - n$

2. $f_n = n^3 + 2$

3. $b_n = -n^2$

4. $t_n = (n + 3)^2$

5. $f_n = \frac{n}{2n-1}$

Describe the pattern and write the next term.

6. 1, 2, 4, 8, ...

7. 3.1, 3.8, 4.5, 5.2,

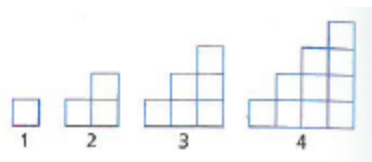
8. 2, 9, 28, 65,

9. 5.8, 4.2, 2.6, 1, -0.6,

10. -4, 8, -16, 32,

11. $\frac{2}{3}, \frac{4}{4}, \frac{6}{5}, \frac{8}{6}, \dots$

12. Which rule gives the total number of squares in the nth figure of the pattern shown?



a. $a_n = 3n - 3$

b. $a_n = 4n - 5$

c. $a_n = n$

d. $a_n = \frac{n(n+1)}{2}$

Find the following sums.

13. $\sum_{i=1}^{20} 2i$

14. $\sum_{n=1}^{50} (n^2 - 1)$

15. $\sum_{k=3}^{17} 5k - 2$

16. $\sum_{n=3}^{35} \frac{n}{n+1}$

17. You want to save \$500 for a school trip. You begin by saving a penny on the first day. You save an additional penny each day after that. For example, you will save two pennies on the second day, three pennies on the third and so on.

a. How much money will you have saved after 100 days?

b. Determine how many days it takes you to save \$500.