Directions: For each of the following, determine if the given sequence is arithmetic, geometric, or neither.

1. $12, 7, 2, -3, -8, \ldots$

2. $5, 10, 20, 40, \ldots$

3. $20, 10, 5, \frac{5}{2}, \ldots$

4. $\frac{1}{3}, 1, \frac{5}{3}, \frac{7}{3}, 3, \ldots$

5. $1, 1, 2, 3, 5, 8, 13, \ldots$

6. $b_n = \frac{n-3}{2}$

Directions: Let a_n be an arithmetic sequence with the following properties. For each of the following, find an expression for a_n, and then find a_{11}.

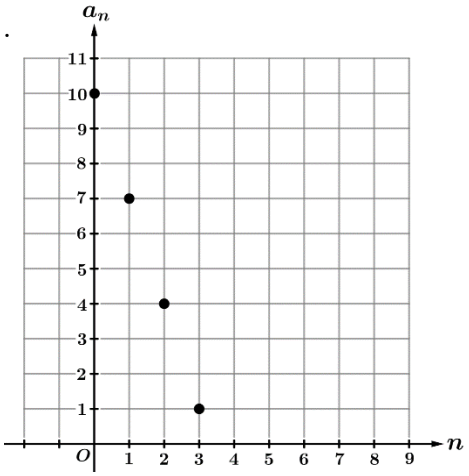
7. $a_3 = 7$ and $a_8 = 17$

8. $a_2 = -3$ and $a_6 = -9$

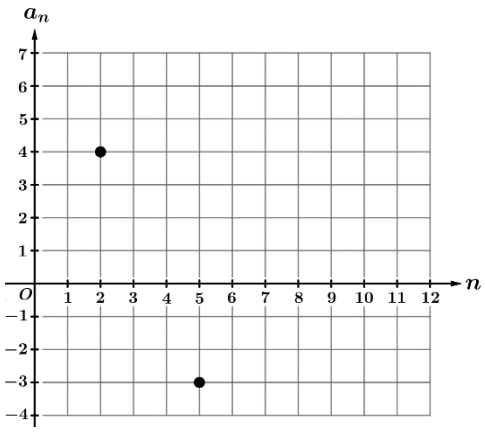
9. $a_5 = 7$ and $d = -4$

10. $a_4 = -1$ and $d = \frac{2}{3}$

11.



12.



Directions: Let g_n be a geometric sequence with the following properties. For each of the following, find an expression for g_n, and then find g_6.

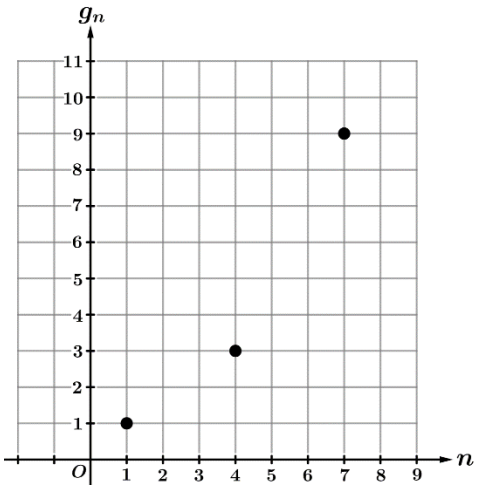
13. $g_1 = 5$ and $r = -2$

14. $g_2 = 8$ and $r = \frac{1}{2}$

15. $g_2 = 1$ and $g_5 = 27$

16. $g_4 = -12$ and $g_7 = \frac{32}{9}$

17.



18.