Name _____ Date _____

Practice : Section 7.2

Tell whether the sequence is arithmetic. *Explain* why or why not.

1. $1, 4, 7, 10, 13, \ldots$
2. $1, 3, 7, 15, 31, \ldots$
3. $-3, -1, 1, 3, 5, \ldots$
4. $8, 4, 0, -4, -8, \ldots$
5. $1, -2, 3, -4, 5, \ldots$
6. $\frac{1}{2}, \frac{1}{3}, \frac{1}{4}, \frac{1}{5}, \frac{1}{6}, \ldots$

Write a rule for the *n*th term of the arithmetic sequence. Then find a_8.

7. $7, 10, 13, 16, \ldots$
8. $8, 9, 10, 11, 12, \ldots$
9. $3, 1, -1, -3, -5, \ldots$
10. $d = 2, a_5 = 1$
11. $d = 4, a_4 = 16$
12. $d = -5, a_{10} = -60$

Write a rule for the *n*th term of the arithmetic sequence that has the two given terms.

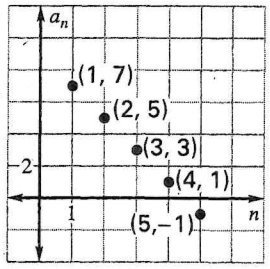
13. $a_8 = 21, a_{10} = 27$
14. $a_3 = 12, a_9 = 18$
15. $a_5 = 15, a_8 = 30$
16. $a_2 = 25, a_7 = 50$
17. $a_{12} = 0, a_{19} = 28$
18. $a_{10} = 150, a_{20} = 100$

Find the sum of the arithmetic series.

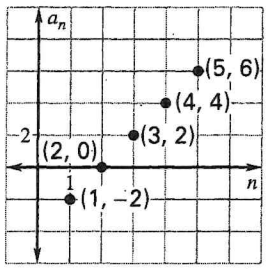
19. $\sum_{i=1}^{4} (i + 1)$
20. $\sum_{i=1}^{6} 3i$
21. $\sum_{i=1}^{12} (2i + 1)$
22. $\sum_{i=1}^{7} (3i - 4)$
23. $\sum_{i=1}^{8} 2i$
24. $\sum_{i=16}^{20} (5 - i)$

Write a rule for *n*th term of the sequence whose graph is shown.

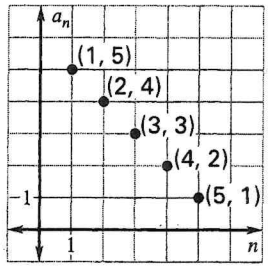
25.



26.



27.



28. **Weightlifting** You are trying to find the maximum weight that you can lift in a weightlifting exercise. You start with a single lift of 125 pounds. Then you increase the weight by 2 pounds and try again. You repeat this procedure until you reach a weight that you are unable to lift.
   - **a.** Write a rule for the total weight of your *n*th lifting attempt.
   - **b.** You are unable to lift the weight on your sixth lift. So, based on your fifth lift, what is the maximum amount of weight that you can lift in this exercise?
   - **c.** Find the sum of the weights lifted in your five successful lifts.