Name_____ Date _____

7.2 Practice A

In Exercises 1–4, tell whether the sequence is arithmetic. Explain your reasoning.

1. 5, 2, −1, −4, −7, …

2. 9, 7, 4, 0, −5, …

3. $\frac{1}{3}, \frac{2}{3}, \frac{3}{3}, \frac{4}{3}, \frac{5}{3}, \ldots$

4. 1, 3, 9, 27, 81, …

5. Write a rule for the arithmetic sequence with the given description.

a. The first term is −5 and each term is 4 more than the previous term.

b. The first term is 9 and each term is 3 less than the previous term.

In Exercises 6–9, write a rule for the *n*th term of the sequence. Then find a_{20}.

6. 15, 22, 29, 36, …

7. 62, 53, 44, 35, …

8. −25, −10, 5, 20, …

9. $-3, -\frac{3}{2}, 0, \frac{3}{2}, \ldots$

10. Describe and correct the error in writing a rule for the *n*th term of the arithmetic sequence −27, −12, 3, 18, 33, ….

✗ Use $a_1 = 27$ and $d = 15$.

$a_n = 27 + (n - 1)15$

$a_n = 12 + 15n$

In Exercises 11 and 12, write a rule for the *n*th term of the sequence. Then graph the first six terms of the sequence.

11. $a_9 = 35,\ d = 4$

12. $a_{15} = -32,\ d = -4$

In Exercises 13–16, write a rule for the *n*th term of the sequence.

13. $a_6 = 37,\ a_{10} = 53$

14. $a_8 = 66,\ a_{13} = 96$

15. $a_5 = 22,\ a_{12} = -48$

16. $a_{13} = -76,\ a_{16} = -97$

17. Find the sum of the positive even integers less than 250. Explain your reasoning.