Is the sequence geometric? If so, find the common ratio and the next two terms.

1. $1, 2, 4, 8, \ldots$
2. $1, 2, 3, 4, \ldots$
3. $1, -2, 4, -8, \ldots$
4. $-1, 1, -1, 1, \ldots$
5. $10, 4, 1.6, 0.64, \ldots$
6. $7, 0.7, 0.07, 0.007, \ldots$
7. $18, -6, 2, -\frac{2}{3}, \ldots$
8. $1, \frac{1}{2}, \frac{1}{3}, \frac{1}{4}, \ldots$
9. $10, 15, 22.5, 33.75, \ldots$
10. $2, -10, 50, -250, \ldots$
11. $-1, -6, -36, -216, \ldots$
12. $\frac{1}{2}, \frac{1}{4}, \frac{1}{6}, \frac{1}{8}, \ldots$

1-35 odd
42-51 all

Write the explicit formula for each sequence. Then generate the first five terms.

13. $a_1 = 5, r = -3$
14. $a_1 = 0.0237, r = 10$
15. $a_1 = \frac{1}{2}, r = \frac{2}{3}$
16. $a_1 = 1, r = 0.5$
17. $a_1 = 100, r = -20$
18. $a_1 = 7, r = 1$
19. $a_1 = 1024, r = 0.5$
20. $a_1 = 4, r = 0.1$
21. $a_1 = 10, r = -1$

Find the missing term of each geometric sequence. It could be the geometric mean or its opposite.

22. $5, \square, 911.25, \ldots$
23. $9180, \square, 255, \ldots$
24. $\frac{2}{5}, \square, \frac{8}{45}, \ldots$
25. $3, \square, 0.75, \ldots$
26. $5, \square, 2.8125, \ldots$
27. $12, \square, 3, \ldots$

Identify each sequence as *arithmetic, geometric,* or *neither.* Then find the next two terms.

28. $45, 90, 180, 360, \ldots$
29. $25, 50, 75, 100, \ldots$
30. $3, -3, 3, -3, \ldots$
31. $30, 35, 40, 45, \ldots$
32. $-5, 10, -20, 40, \ldots$
33. $2, 1, 0.5, 0.25, \ldots$
34. $5, 6, 8, 11, 15, \ldots$
35. $2, 2, 2, 2, \ldots$
36. $1, 4, 9, 16, \ldots$

For the geometric sequence 3, 12, 48, 192, . . . , find the indicated term.

42. 5th term
43. 7th term
44. 10th term
45. 14th term
46. 17th term
47. nth term

Find the 10th term of each geometric sequence.

48. $a_9 = 8, r = \frac{1}{2}$
49. $a_{11} = 8, r = \frac{1}{2}$
50. $a_9 = -5, r = -\frac{1}{2}$
51. $a_{11} = -5, r = -\frac{1}{2}$

Wed 6/4/14
(7)