Converting Recursive to Explicit

Directions: Convert each recursive formula to an explicit formula. Show all work.

1. Convert the recursive formula to an explicit formula: $a_1 = 8, \quad a_n = 2a_{n-1}$.

2. Convert the recursive formula to an explicit formula: $a_1 = 5, \quad a_n = 3a_{n-1}$.

3. Convert the recursive formula to an explicit formula: $a_1 = 128, \quad a_n = \frac{1}{2}a_{n-1}$.

4. Convert the recursive formula to an explicit formula: $a_1 = 243, \quad a_n = \frac{1}{3}a_{n-1}$.

5. Convert the recursive formula to an explicit formula: $a_1 = 6, \quad a_n = -2a_{n-1}$.

6. Convert the recursive formula to an explicit formula: $a_1 = 80, \quad a_n = -\frac{1}{2}a_{n-1}$.

7. Convert the recursive formula to an explicit formula: $a_1 = 4, \qquad a_n = 5a_{n-1}$.

8. Convert the recursive formula to an explicit formula: $a_1 = 1000, \qquad a_n = \frac{1}{10}a_{n-1}$.

9. Convert the recursive formula to an explicit formula: $a_1 = 12, \qquad a_n = \frac{2}{3}a_{n-1}$.

10. Convert the recursive formula to an explicit formula: $a_1 = 7, \qquad a_n = \frac{3}{2}a_{n-1}$.

11. Convert the recursive formula to an explicit formula: $a_1 = -9, \qquad a_n = 4a_{n-1}$.

12. Convert the recursive formula to an explicit formula: $a_1 = 15, \qquad a_n = -\frac{1}{3}a_{n-1}$.