

Name: _____

Date: _____

13.5 HOMEWORK: Explicit Formulas for Geometric Sequences Algebra 1

Write the *explicit* formula that describes each geometric sequence, and use it to find the 15th term in each sequence.

1. 2, 4, 8, 16

2. 2, -6, 18, -54,

3. 5, 15, 45, 135,

4. $1, \frac{1}{4}, \frac{1}{16}, \frac{1}{64}, \dots$

5. 3, -3, 3, -3,

6. $-\frac{1}{3}, -\frac{2}{9}, -\frac{4}{27}, -\frac{8}{81}, \dots$

Find the following.

7. $20, 10, 5, \frac{5}{2}, \dots$

explicit formula _____

$a_{14} =$ _____

recursive formula _____

8. Find the number of cubes in the Figure 25.

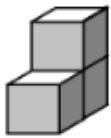


Fig. 1
3 cubes

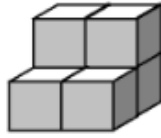


Fig. 2
6 cubes

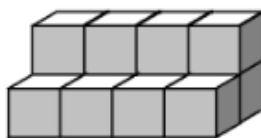


Fig. 3

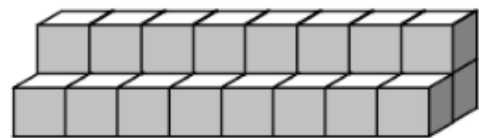


Fig. 4

9. Fill in the blanks given the following geometric explicit formula: $a_n = 4\left(\frac{3}{4}\right)^{n-1}$

$a_1 =$ _____

$r =$ _____

$a_2 =$ _____