ALGEBRA 1 · CLASSWORK · ADVANCED

Use the Explicit Formula

SCORE / 25

01 Part A · Practice

The explicit formula $a_n = a_1 \cdot r^{n-1}$ gives any term directly from the first term a_1 and the common ratio r.

EXAMPLE

Find a_8 for $2, 6, 18, 54, \ldots$

1. $a_1 = 2, r = 3$.
2. $a_n = 2 \cdot 3^{n-1}$.
3. $a_8 = 2 \cdot 3^7 = 2 \cdot 2{,}187 = 4{,}374$.

1 ●○○ Find a_6 for $a_n = -120\left(\frac{1}{2}\right)^{n-1}$.

2 ●○○ A geometric sequence has $a_2 = 48$ and $a_4 = 12$ ($r > 0$). Write the explicit formula.

3 ●○○ Write an explicit formula for $-8,\ 16,\ -32,\ 64,\ \ldots$

4 ●○○ For $a_n = 32\left(\frac{1}{2}\right)^{n-1}$, which term is 1?

5 ●○○ Find a_7 for $a_n = -120\left(\frac{1}{2}\right)^{n-1}$.

6 ●○○ Write an explicit formula for $13,\ 65,\ 325,\ 1625,\ \ldots$

7 ●○○ For $a_n = 7 \cdot 4^{n-1}$, which term is 1792?

8 ●○○ A geometric sequence has $a_2 = 21$ and $a_4 = 189$ ($r > 0$). Write the explicit formula.

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Preview - the full worksheet and its answer key are at primeworksheet.com