Name : _____

Recursive Formula

Write the recursive formula for each geometric sequence.

1) 15, –45, 135, –405, ...

2) 4, 8, 16, 32, 64, 128, ...

3) $2\sqrt{3}, 4\sqrt{3}, 8\sqrt{3},$ ... $\frac{128}{243}$, ...

5) 0.4, 2.4, 14.4, 8 ... -750, –3750, ...

7) $-\frac{2}{5}, \frac{8}{15}, -\frac{32}{45},$ ... -399.3, ...

9) –67, 134, –268, 536, –1072, ...

10) –1, –9, –81, –729, –6561, ...

Name : _____

Answer key

Recursive Formula

Sheet 1

Write the recursive formula for each geometric sequence.

1) 15, –45, 135, –405, ...

$a_n = a_{n-1} \cdot -3$

2) 4, 8, 16, 32, 64, 128, ...

$a_n = a_{n-1} \cdot 2$

3) $2\sqrt{3}, 4\sqrt{3}, 8\sqrt{3},$ $\frac{128}{243}$, ...

a_n $= a_{n-1} \cdot \frac{2}{3}$

5) 0.4, 2.4, 14.4, 8 -750, –3750, ...

a_n $= a_{n-1} \cdot 5$

7) $-\frac{2}{5}, \frac{8}{15}, -\frac{32}{45},$ -399.3, ...

$a_n = a_{n-1}$ 3

$a_n = a_{n-1} \cdot -11$

9) –67, 134, –268, 536, –1072, ...

$a_n = a_{n-1} \cdot -2$

10) –1, –9, –81, –729, –6561, ...

$a_n = a_{n-1} \cdot 9$