Algebra 2 Name_____ ID: 1

Assignment

Date_____ Period____

Determine if the sequence is arithmetic. If it is, find the common difference, the term named in the problem, and the explicit formula.

1) 39, 30, 21, 12, ...
Find a_{22}

2) −14, −6, −2, 0, ...
Find a_{29}

Determine if the sequence is geometric. If it is, find the common ratio, the term named in the problem, and the explicit formula.

3) 1, 3, 9, 27, ...
Find a_{11}

4) 4, 8, 16, 32, ...
Find a_{12}

Find the missing term or terms in each arithmetic sequence.

5) ..., −18, ___, 0, ...

6) ..., 33, ___, 37, ...

Find the missing term or terms in each geometric sequence.

7) ..., 4, ___, 36, ...

8) ..., −2, ___, −32, ...

Find the next three terms in each sequence.

9) −3, −12, −48, −192, −768, ...

10) 3, 23, 123, 623, 3123, ...

Algebra 2 Name_____ ID: 1

Assignment

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Determine if the sequence is arithmetic. If it is, find the common difference, the term named in the problem, and the explicit formula.

1) 39, 30, 21, 12, ...
Find a_{22}

Common Difference: $d = -9$
$a_{22} = -150$
Explicit: $a_n = 48 - 9n$

2) −14, −6, −2, 0, ...
Find a_{29}

Not arithmetic

Determine if the sequence is geometric. If it is, find the common ratio, the term named in the problem, and the explicit formula.

3) 1, 3, 9, 27, ...
Find a_{11}

Common Ratio: $r = 3$
$a_{11} = 59049$
Explicit: $a_n = 3^{n-1}$

4) 4, 8, 16, 32, ...
Find a_{12}

Common Ratio: $r = 2$
$a_{12} = 8192$
Explicit: $a_n = 4 \cdot 2^{n-1}$

Find the missing term or terms in each arithmetic sequence.

5) ..., −18, ___, 0, ...

−9

6) ..., 33, ___, 37, ...

35

Find the missing term or terms in each geometric sequence.

7) ..., 4, ___, 36, ...

12

8) ..., −2, ___, −32, ...

−8

Find the next three terms in each sequence.

9) −3, −12, −48, −192, −768, ...

−3072, −12288, −49152

10) 3, 23, 123, 623, 3123, ...

15623, 78123, 390623