Students taking Pre-Cal, Stat, Adv. Topics, College Readiness Name_____

Assignment 2: Arithmetic and Geometric Sequences

Determine if the sequence is arithmetic. If it is, find the common difference, the 52nd term, and the explicit formula.

1) 4, 7, 12, 19, ...

2) 1, 4, 9, 16, ...

3) 1, 1, 1, 1, ...

4) −3, −3, −3, −3, ...

5) −3, 6, −12, 24, ...

Determine if the sequence is geometric. If it is, find the common ratio, the 8th term, and the explicit formula.

6) 1, −6, 36, −216, ...

7) 1, 6, 36, 216, ...

8) −1, −3, −9, −27, ...

9) 1, 2, 4, 8, ...

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Assignment 2: Arithmetic and Geometric Sequences

Determine if the sequence is arithmetic. If it is, find the common difference, the 52nd term, and the explicit formula.

1) 4, 7, 12, 19, ...

Not arithmetic

2) 1, 4, 9, 16, ...

Not arithmetic

3) 1, 1, 1, 1, ...

Not arithmetic

4) −3, −3, −3, −3, ...

Not arithmetic

5) −3, 6, −12, 24, ...

Not arithmetic

Determine if the sequence is geometric. If it is, find the common ratio, the 8th term, and the explicit formula.

6) 1, −6, 36, −216, ...

Common Ratio: $r = -6$
$a_8 = -279936$
Explicit: $a_n = (-6)^{n-1}$

7) 1, 6, 36, 216, ...

Common Ratio: $r = 6$
$a_8 = 279936$
Explicit: $a_n = 6^{n-1}$

8) −1, −3, −9, −27, ...

Common Ratio: $r = 3$
$a_8 = -2187$
Explicit: $a_n = -3^{n-1}$

9) 1, 2, 4, 8, ...

Common Ratio: $r = 2$
$a_8 = 128$
Explicit: $a_n = 2^{n-1}$