Secondary 1 Honors ~ 5.3 Arithmetic & Geometric Sequences

Name: _____ Period: _____

Find the slope of the line that goes through each pair of points.

1. (3, 7) and (5, 10)

3. (0, 0) and (-2, 5)

2. (-1, 4) and (3, 3)

4. (-1, -5) and (-4, -5)

Find the next 3 terms in each sequence. Identify the constant difference. Write recursive equations for the following arithmetic sequences, and then write the explicit equation. Identify where you see the constant difference in both equations.

5.

| 3 | 8 | 13 | 18 | 23 | | | |

Constant difference _____   Recursive Equation: Explicit Equation:

6.

| 11 | 9 | 7 | 5 | 3 | | | |

Constant difference _____   Recursive Equation: Explicit Equation:

7.

| 3 | 1.5 | 0 | -1.5 | -3 | | | |

Constant difference _____   Recursive Equation: Explicit Equation:

Find the missing values for each arithmetic or geometric sequence. Then say if the sequence has a constant difference or a constant ratio, and give the constant difference/ratio.

8.   5, 10, 15, 20. . .

Constant difference or constant ratio? _____

The constant difference /ratio is _____

9.   20, 10, 5, 2.5. . .

Constant difference or constant ratio? _____

The constant difference /ratio is _____

10.   2, 5, 8, 11, 14. . .

Constant difference or constant ratio? _____

The constant difference /ratio is _____

11.   30, 24, 18, 12, 6 . . .

Constant difference or constant ratio? _____

The constant difference /ratio is _____

Determine whether each sequence represents and arithmetic or geometric sequence and then write the recursive rule and the explicit rule for each sequence.

12.   4, 1, -2, -5, . . .

Arithmetic or Geometric?

Recursive:

Explicit:

13.   2, -6, 18, -54, . . .

Arithmetic or Geometric?

Recursive:

Explicit:

14. $\frac{1}{5}, \frac{3}{10}, \frac{2}{5}, \frac{1}{2}, ...$

Arithmetic or Geometric?

Recursive:

Explicit:

15. $\frac{1}{3}, \frac{2}{9}, \frac{4}{27}, \frac{8}{81}, ...$

Arithmetic or Geometric?

Recursive:

Explicit: