# CH.4, L6 – ARITHMETIC VS. GEOMETRIC SEQUENCES REVIEW

1. For each sequence, determine if it is arithmetic or geometric.

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|---|---|
| a) $4, \frac{13}{3}, \frac{14}{3}, 5, \frac{16}{3}, \ldots$ | b) $-34, -26, -18, -10, -2, \ldots$ |
| c) $-4, 12, -36, 108, -324, \ldots$ | d) $\frac{3}{4}, \frac{9}{16}, \frac{27}{64}, \frac{81}{256}, \ldots$ |

2. Given the explicit rule, create a sequence of the first four terms and write the recursive rule.

| | |
|---|---|
| a) $h(x) = \left(\frac{1}{4}\right)^x$ | b) $j(x) = 10 - 4n$ |

3. Given the recursive rule, create a sequence of the first five terms and write the explicit rule.

CFS:

1. Table or sequence is created from the function
2. Table or sequence is label arithmetic or geometric
3. Recursive functions have initial value and recursive rule
4. Explicit functions are written in linear or exponential form

| | |
|---|---|
| a) $f(1) = -1; f(x) = f(x-1) + 10$ | a) $g(1) = \frac{1}{2}; g(x) = \left(\frac{1}{5}\right) g(x-1)$ |

4. Of the two recursive functions below, determine the value of *f(5)* for the function that represents a linear relationship.

b) $f(1) = 4; f(x) = (-5)f(x-1)$

c) $f(1) = -17; f(x) = 6 + f(x-1)$

5. Of the two explicit functions below, determine the value of *g(10)* for the function that represents an exponential relationship.

a) $g(x) = -200\left(\frac{1}{2}\right)^x$

b) $g(x) = -33 - 7x$

CFS:

1. Table or sequence is created from the function
2. Table or sequence is label arithmetic or geometric
3. Recursive functions have initial value and recursive rule
4. Explicit functions are written in linear or exponential form