

## Structure in Expressions - Worksheet 4

Identify the sequence as arithmetic, geometric, or neither:

1.  $0, 1, 1, 2, 3, 5, 6, 13, \dots$

2.  $-16, -13, -10, -7, -4, -1, 2, \dots$

3.  $-10, -20, -40, -80, -160, -320, \dots$

4.  $1, 0.1, 0.01, 0.001, 0.0001, \dots$

5.  $\frac{a^2}{b^5}, \frac{a}{b^4}, \frac{1}{b^3}, \frac{1}{ab^2}, \frac{1}{a^2b}, \frac{1}{a^3}, \frac{b}{a^4}, \frac{b^2}{a^5}, \dots$

Use the geometric series formula to calculate the sum of the *first 5* terms of the following geometric sequences.:

6.  $-1.5, -3, -6, -12, -24, -48, \dots$

7.  $0.3, -0.9, 2.7, -8.1, 24.3, \dots$

8.  $1, \frac{1}{2}, \frac{1}{4}, \frac{1}{8}, \frac{1}{16}, \dots$

9.  $1, \frac{1}{2}, \frac{1}{4}, \frac{1}{8}, \frac{1}{16}, \dots$

10.  $\frac{a^2}{b^5}, \frac{a}{b^4}, \frac{1}{b^3}, \frac{1}{ab^2}, \frac{1}{a^2b}, \frac{1}{a^3}, \frac{b}{a^4}, \frac{b^2}{a^5}, \dots$

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