

Math 3050 (Barsamian) Class Drill 5.1.1: Sequences

[1] (a) Let $a_k = \frac{7-k}{7+k}$ for $k \geq 1$. Write the first five terms of the sequence.

(b) Let $b_k = 2k^3$ for $k \geq 1$. Write the first five terms of the sequence.

(c) Let $c_k = (-1)^k$ for $k \geq 1$. Write the first five terms of the sequence.

(d) Let $d_k = \frac{(-1)^k}{3^k}$ for $k \geq 0$. Write the first five terms of the sequence.

[2] (a) Find an explicit formula for the sequence that begins $-1, 1, -1, 1, \dots$

(b) Find an explicit formula for the sequence that begins $1, \frac{-1}{2}, \frac{1}{4}, \frac{-1}{8}, \dots$

(c) Find an explicit formula for the sequence that begins $\frac{1}{4}, \frac{2}{9}, \frac{3}{16}, \frac{4}{25}, \frac{5}{36}, \dots$

(d) Find an explicit formula for the sequence that begins $-1, 3, -9, 27, -81, \dots$