Topic: Finding Intercepts – Numeric

Problem:

For the following exercise, write the first eight terms of the piecewise sequence.

(insert below image)

$$a_n = \begin{cases} 4(n^2 - 2) & \text{if } n \leq 3 \text{ or } n > 6 \\ \frac{n^2-2}{4} & \text{if } 3 < n \leq 6 \end{cases}$$

A. -8, -2, 3, 12, 26, -7, 42, -9

B. 12, -36, 42, -5, 24, -6, 52, -12

C. -4, 8, 28, $\frac{14}{4}$,$\frac{23}{4}$, $\frac{38}{4}$, 188, 248

D. -4,-8,-28, $\frac{14}{4}$, -$\frac{23}{4}$, $\frac{38}{4}$, -188, 248

Answer:

C. -4, 8, 28, $\frac{14}{4}$,$\frac{23}{4}$, $\frac{38}{4}$, 188, 248

Hints (2 Total):

Hint 1 / 2

Substitute each value of n into the formula. Begin with n=1n=1 to find the first term, a1. To find the second term, a2, use all n terms.

Hint 2 / 2

Continue in the same manner until you have identified all n terms.

Scaffold (1 Total):

Scaffold 1 / 1

What are the first 8 terms of the sequence?

A. -8, -2, 3, 12, 26, -7, 42, -9

B. 12, -36, 42, -5, 24, -6, 52, -12

C. -4, 8, 28, $\frac{14}{4}$,$\frac{23}{4}$, $\frac{38}{4}$, 188, 248

D. -4,-8,-28, $\frac{14}{4}$, -$\frac{23}{4}$, $\frac{38}{4}$, -188, 248