

SOLUTIONS

Quiz #8 - March 31, 2009

1. Find a formula for the general term  $a_n$  of the sequence below, assuming that the patten of the first few terms continues:

$$\{-3/2, 6/4, -9/8, 12/16, -15/32, 18/64, \dots\}$$

$$a_n = (-1)^n \frac{3n}{2^n}$$

(other possibilities exist)

2. Define: A sequence  $\{a_n\}$  is *monotonic* if ...

it is either increasing

or

decreasing

Name:

SOLUTIONS

Quiz #8 - April 2, 2009

1. Suppose a sequence is given recursively by  $a_1 = 1, a_2 = 3, a_n = 2a_{n-1} - a_{n-2}$ . Write the first 8 terms of the sequence.

$$1, 3, 5, 7, 9, 11, 13, 15$$

2. Define precisely: A sequence  $\{a_n\}$  is *bounded above* if ...

there exists  $M$

such that  $a_n \leq M$

for all  $n$