

ACTIVITY 1.3

Sequences

- (1) Generate the sequence that is obtained using the following rules.
 - (a) First term is any natural number, e.g. 9
 - (b) $a_{n+1} = \begin{cases} 3a_n + 1 & \text{if } |a_n| \text{ is odd} \\ a_n/2 & \text{if } |a_n| \text{ is even} \end{cases}$
- (2) Repeat the exercise for four more numbers. What characteristics are you able to notice in your sequences?