

1.4 Technology: TI-83 Plus Calculator: Graphing Sequences

Note that Part 2 deals with recursive formulas and so is appropriate for only Functions and Relations students.

Specific Expectations

Unless stated otherwise, the following expectations are common to the Functions and Relations course and the Functions course.

- FA1.01(U/C) write terms of a sequence, given the formula for the n th term
- FA1.01(U) write terms of a sequence, given the formula for the n th term or given a recursion formula
- OC3.05 use graphing technology effectively (e.g., use appropriate menus and algorithms; set the graph window to display the appropriate section of a curve)

Evidence of Learning

Students should be able to

- independently use technology to create a sequence from the general formula
- effectively use specific vocabulary about sequences

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Time Required Functions and Relations or Functions: 40 min

Materials and Equipment

- TI-83 Plus calculator

Overview

- Use the sequence editor of the TI-83 Plus calculator and other features to investigate the relation between the term number and the value of the term.
- Connect patterns in the sequences, which can be viewed in a table, to graphs when the value of the term is the dependent variable and the term number is the independent variable.

TECHNOLOGY SUGGESTION

Pair students who have not used the List feature of TI-83 Plus with those who have. Write the steps on chart paper and post it above the blackboard for quick reference.

Management Options

Groups – Divide the class in half. After a few moments, describe a sequence and then choose one of the groups and ask them to generate

the sequence by algebraically calculating several terms or by using the steps in this section. Allow students to practise both methods. Have them compare the two different methods and comment on which method they preferred and why.

Teacher-Led Demonstration – Walk the class through this section using the TI-83 Plus and the view screen. Once students have grasped the ideas, distribute calculators so students can work through the *Practice* questions on their own.

ASSESSING LEARNING SKILLS

INDEPENDENCE

Monitor students' efforts to follow verbal or written instructions. Note the ability to take responsibility for one's own learning rather than immediately seeking direct support.

Questions with a Functions and Relations Focus:

Part 1 (a)–(h), Part 2 (a)–(f)

Questions with a Functions Focus:

Part 1: (a)–(h)