Name _____   Date _____

LESSON 6.4 Graphing Calculator Activity:
Use a Calculator for Random Sampling

For use before the lesson "Select and Draw Conclusions from Samples"

QUESTION   **How can you use a graphing calculator to select a random sample?**

A *population* is a group of people or objects that you want information about. When it is too difficult, time-consuming, or expensive to survey everyone in a population, information is gathered from a *sample*, or subset, of the population.

One type of sampling method is *random sampling*. In a *random sample*, each member of a population has an equal chance of being selected.

EXAMPLE   **Select a random sample**

Use a graphing calculator to select a random sample.

The cafeteria staff wants to survey the students in the school who purchase school lunches to determine their favorite lunch menu items. There are 427 students who purchase a school lunch. Describe a method for selecting a random sample of 65 students.

Solution

STEP 1   Make a list of the 427 students who purchase school lunches, and assign each of these students a different number from 1 to 427.

STEP 2   Use the TI-83 Plus graphing calculator to generate 65 unique random integers from 1 to 427. (*Note:* The Casio CFX-9850GC Plus does not have a random integer function.) To randomly generate an integer between 1 and 427 use the following keystrokes.

   MATH ▶ ▶ ▶ 5 1 **,** 427 **)** **ENTER**

For each integer that is generated, circle the corresponding student on your list. Press **ENTER** to generate the next random integer. If a number is repeated, simply discard it. Continue to generate integers until 65 students are chosen.

PRACTICE   **Use a graphing calculator to select a random sample to complete the following exercises.**

   1. A company would like to survey its employees to determine which health care plan they would prefer. The company has 57 employees. Describe how you could use a random integer generator to select 12 employees, and record the numbers of these employees.

   2. A local gym would like to survey its members about the quality of the gym equipment. There are 249 members of the gym. Describe how you could use a random integer generator to select 25 members, and record the numbers of these members.

LESSON 6.4

Graphing Calculator Keystrokes

For use with the lesson "Select and Draw Conclusions from Samples"

TI-83 Plus

Example 3

STEP 2

MATH ▶ ▶ ▶ 5 1 **,** 3 2 4 **)**

ENTER

Press **ENTER** repeatedly, until you have obtained
40 different randomly generated integers.

Casio CFX-9850GC Plus

The Casio does not have a *random integer*
function.