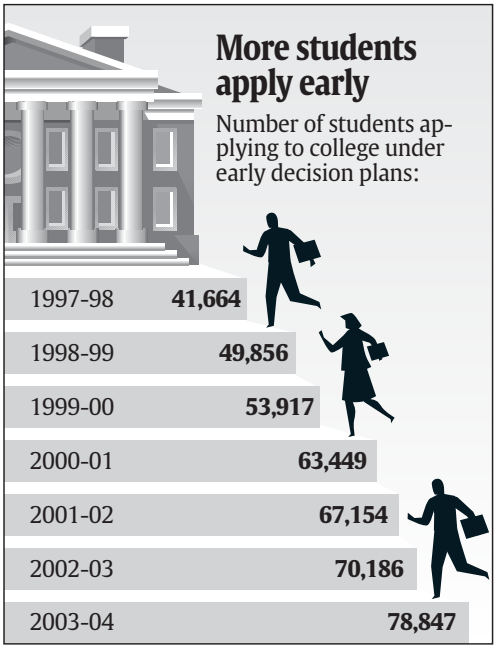
Math TODAY™
Student Edition

USA TODAY
NO. 1 IN THE USA

More students apply early



Activity Overview:

The USA TODAY Infograph "More students apply early" will be used to explore mathematical models that will best fit the data for the time period shown. You will find the equation for the models and then look at the advantages and limitations for each model. You will determine the average increase per year for the number of students that are applying under the early decision plan. Finally, you will determine the total number of students applying for a given time period.

Focus Questions:

- What is the average increase in the number of students that are applying early for the time period shown in the USA TODAY Infograph?
- What is the linear function modeling this data set? What does the slope and y-intercept mean in the early decision-year scenario?
- Determine the total number of students that are expected to apply for early decision for the period from 2004 through 2007.

This activity was created for use with Texas Instruments handheld technology.

More students apply early

Assessment and Evaluation:

Activity 1

What is the average increase in the number of students that are applying early for the time period shown in the USA TODAY Infograph?

Step 1:
Enter the data from the USA TODAY Infograph in two lists, L1 and L2. Use 0 to represent years 1997 -1998, 1 to represent years 1998 -1999, and so on.

Step 2:
The change in the number of students that are applying early for consecutive years can be found by entering the following:
Press [STAT] ENTER and move the cursor so that L3 is highlighted.
Press [2nd] [STAT] [->]7 [2nd] [L2] [ENTER]. This will calculate the differences between consecutive entries in L2 and store the entries in L3.

Step 3:
Press [2nd] QUIT to return to the home screen.
Press [2nd] [STAT] [<-] 3 [2nd] [L3].
Press ENTER to find the average increase in the number of students applying.
Record your answer _____

Activity 2

What is the linear function modeling this data set? What does the slope and y-intercept mean in the early decision-year scenario?

Step 1:
Create a scatterplot of the data in L1 and L2.

Step 2:
Use the regression capabilities of the handheld to determine the linear model.

_____

Activity 3

Determine the total number of students that are expected to apply for early decision for the period from 2004 through 2007.

Use the regression model from Activity 2 to predict the number of students applying for early decision and enter your values in the table below. Use these values to determine the total expected number of students for the years 2004-2007.

Year	2004-2005	2005-2006	2006-2007	Total
Number of students				

Data Source:

The College Board

Materials:

- TI-83 Plus family or TI-84 Plus family

Additional Information:

- **College Board**
  www.collegeboard.com
- **USA TODAY Education Online**
  www.education.usatoday.com