Math TODAY™
Student Edition

USA TODAY

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Cropland Value Grows

USA TODAY Snapshots

Cropland value grows
Average value per acre of U.S. farm cropland:

$1,270 — $1,340 — $1,410 — $1,490 — $1,580 — $1,650 — $1,720

1997 1998 1999 2000 2001 2002 2003

Source: National Agricultural Statistics Service; data excludes Hawaii, Alaska

By Shannon Reilly and Marcy E. Mullins, USA TODAY
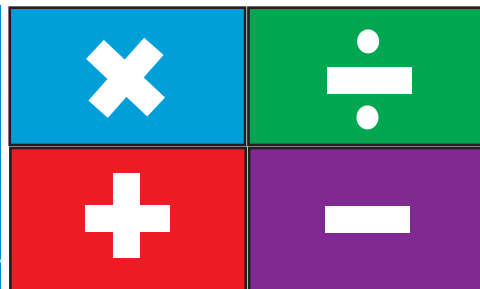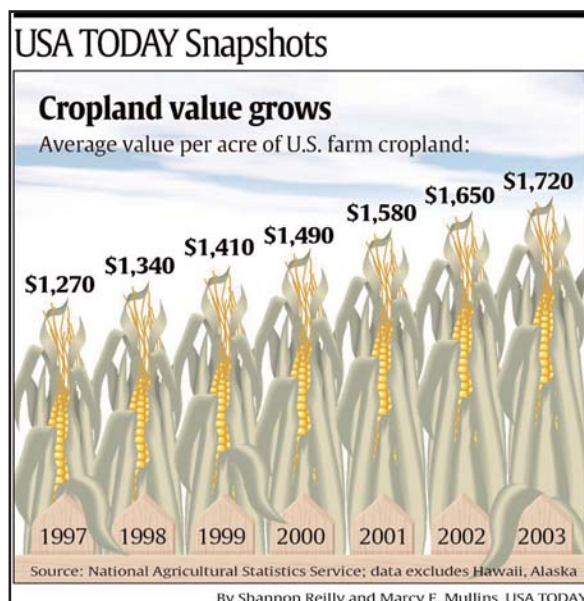
Focus Questions:

- According to the USA TODAY Snapshot "Cropland value grows," explain what would represent the independent and the dependent variables?

- Determine the "rate of change" in average cropland value per year and interpret the meaning of this value.

- Estimate the average value per acre of U.S. farm cropland in 2004 and 1996.

Activity Overview:

You will explore the data in the USA TODAY Snapshot® "Cropland value grows" to determine the rate at which the average value per acre of U.S. cropland is changing. You will determine a mathematical model for the data and use the model to make a prediction about the value of an acre based on this data for years not shown in the Snapshot. You will create a scatter plot of the data for the years 1997 through 2003, using appropriate labels based on the data in the Snapshot.

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Procedure:

Step 1

According to the USA TODAY Snapshot "Cropland value grows," explain what would represent the independent and the dependent variables?

- Independent variable _____

- Dependent variable _____

Step 2

Determine the "rate of change" in average cropland value per year and interpret the meaning of this value.

- Enter the data from USA TODAY Snapshot "Cropland value grows" in two lists.

- Use the regression capabilities of the graphing handheld to determine the mathematical model.

- Mathematical model: _____

- Using your model above, what value represents the "rate of change"?
  _____

- What is the meaning of the "rate of change"?
  _____

Step 3

Estimate the average value per acre of U.S. cropland in 2004 and 1996.

- Average value per acre of U.S. cropland in 2004 _____

- Average value per acre of U.S. cropland in 1996 _____