

## Statistical Questions Scenarios

### Scenario #1

Your math teacher, Michael Phelps, has just graded your end-of-year exams. Michael Phelps says that he is not ready to post individual scores, but he will answer statistical questions related to them. One of your friends keeps asking non-statistical questions.

1. Help your friend understand the difference between a statistical and a non-statistical question by explaining why the following questions are statistical:
  - a. How did my class compare to the other classes?
  - b. What was the percentage of students who earned an A in the class?
  - c. What was the typical score on the multiple-choice?
2. Write another statistical question you can ask your teacher about end-of-year exams.

### Scenario #2

The president comes to visit, and you want to take the opportunity to ask him some intelligent statistical questions.

1. Explain why the following are statistical questions that you could ask the president:
  - a. How many years does the typical American spend in school?
  - b. How much money does the Federal Government spend in a typical year?
  - c. How much money does a typical American family spend on healthcare each year?
  - d. What percent of Americans over 24 are college graduates?
2. Write another statistical question that you could ask the president.

### Scenario #3

Zeke empties his button collection out of a jar so he can see all of them at once.

1. Explain why the following are statistical questions that someone could ask Zeke about his buttons:
  - a. What is the typical number of holes for the buttons in the jar?
  - b. How many buttons are in the jar?
  - c. How large is the largest button in the jar?
  - d. What is the typical size for the buttons in the jar?
2. Write another statistical question related to Zeke's button collection.

### Scenario #4

Sergey Brin, co-founder of Google, is giving a talk on how people use Google today.

1. Explain why the following are statistical questions that you could ask Sergey:
  - a. Which country submits the most Google searches?
  - b. How many results does a typical search return?
  - c. How many Google searches have there been ever?
  - d. How many links does each searcher follow?
2. Write another statistical question related to how people use Google today.