Exercise 1

1. For each of the following, determine whether or not the question is a statistical question. Give a reason for your answer.
   a. What is my job of choice?

   b. What are the streets my classmates live on?

   c. How many years have my classmates worked in their current jobs?

   d. What is the favorite TV show of instructors in my learning center?

   e. How many employees does my company have?

2. Explain why each of the following questions is not a statistical question.
   a. How old am I?

   b. What's my favorite food?

   c. How old is my boss?

Exercise 2

3. Ronnie, a welder, wanted to find out if his coworkers have the same training as he does. Write a statistical question that would help Ronnie find the answer.

4. Write a statistical question that can be answered by collecting data from students in your class.

5. Change the following question to make it a statistical question: What was the high temperature yesterday?

Exercise 3

6. Identify each of the following data sets as categorical (C) or numerical (N).

   a. Salaries of 20 coworkers _____

   b. Favorite baseball team of 12 classmates_____

   c. Hours of sleep each night for each of 30 family members _____

   d. Type of beverage drunk at lunch for each of 15 classmates _____

   e. Eye color for each of 5 teachers _____

   f. Number of hours of homework completed for each of 8 classmates _____

7. For each of the following statistical questions, identify whether the data Jerome would collect to answer the question would be numerical or categorical. Explain your answer, and list four possible data values.

   a. How old are the tools in his mechanic toolbox?

   b. How much did the tools in the collection cost?

   c. Where did Jerome get the tools in the collection

Independent Practice

Statistics is about using data to answer questions. In this module, the following four steps summarize your work with data:

Step 1: Pose a question that can be answered by data.

Step 2: Determine a plan to collect the data.

Step 3: Summarize the data with graphs and numerical summaries.

Step 4: Answer the question posed in Step 1 using the data and summaries.

A statistical question is one that can be answered by collecting data and where there will be variability in the data.

Two types of data are used to answer statistical questions: numerical and categorical.

1. For each of the following, determine whether the question is a statistical question. Give a reason for your answer.
   a. How many letters are in my last name?
   b. How many letters are in the last names of the students in my class?
   c. What are the colors of the uniforms worn at work by my classmates?
   d. What is the maximum number of products that a production line can roll in 5 minutes?
   e. What are the check rates of quality assurance workers on Line F?
   f. How many hours of work do each of my classmates get each week?
   g. How many miles per gallon do compact cars get?

2. Identify each of the following data sets as categorical (C) or numerical (N). Explain your answer.
   a. heights of 10 classmates
   b. number of non-English speakers in my learning center
   c. favorite restaurant of each of my 20 coworkers
   d. types of car driven by each of 15 friends
   e. number of work hours/week by each of 12 coworkers

3. Rewrite each of the following questions as a statistical question.
   a. How many pets does your teacher have?
   b. How many items were marked non-compliant on the assembly line yesterday?
   c. How many pages are in my employee handbook?
   d. Can I calculate averages?

4. Write a statistical question that would be answered by collecting data from classmates in your learning center.

5. Are the data you would collect to answer the question you wrote in Problem 2 categorical or numerical? Explain your answer.