28.4

A company has collected data on the numbers of male and female employees who did or did not graduate from college. The data are summarized in the table.

	College Graduate	Not a College Graduate	
Male	198	9	
Female	190	3	

If an employee is selected from this company, find the given probabilities.
Express your answers as simplified fractions.

a) P(female and college graduate) =

b) P(female or college graduate) =

c) P(female | college graduate) =

d) P(college graduate | female) =

29.2

Of these three statements, which are referring to a population parameter?

I. In Mr. Hobson's fifth-grade class, cats are the favorite pet of 55% of the students.

II. The newspaper surveyed voters in the city of Chicago and found that 48% are opposed to the school funding proposal.

III. The average GPA of all current members of a certain sorority is 3.24.

A. II only
B. III only
C. I and II only
D. I and III only
E. II and III only

Suppose Coolidge University wants to find out from the whole student body whether they support adding a swimming pool to the recreation center. Circle the specific type of sampling for each of the following and discuss each in terms of bias (say more than "biased" or "not biased").

a) A notice in the student newspaper invites all students to email their opinions.

Type of sampling: CLUSTER VOLUNTARY

Bias?

b) Randomly select a group of freshmen, a group of sophomores, a group of juniors, and a group of seniors and poll them for their opinion.

Type of sampling: STRATIFIED CONVENIENCE

Bias?

29.4

What type of data, categorical or measurement, is the response to each situation?

a) number of credit hours taken this semester

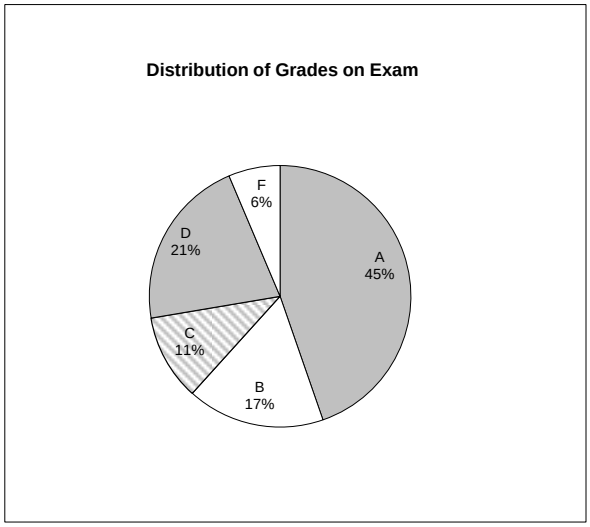
b) favorite music style

c) number for your birth month

Give an example of measurement data for the context of a shopping trip.

30.1

The pie graph shown here shows how letter grades were distributed on an exam.



a) What should be the central angle for the D grade category? Show your work. Do not round.

b) 15 students had a grade of F. How many students took the exam?
Show your work.

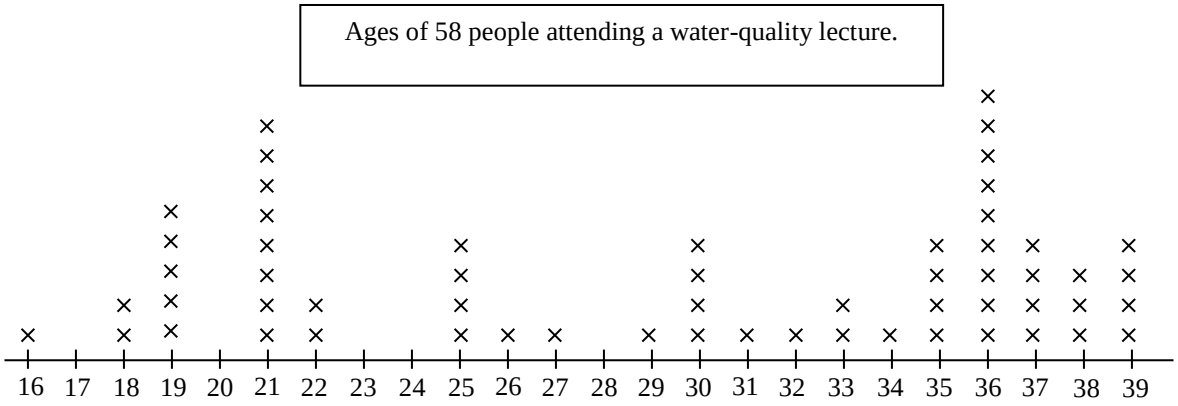
30.2

Construct an ordered stem-and-leaf plot for the data shown here.

78, 92, 80, 77, 71, 99, 101, 76, 82, 99, 102, 114, 86, 71, 104, 89, 101, 112, 76

30.3

Use the information in this graph to answer questions 1 and 2.



What is the median of this set of data?

A. 29
B. 30.5
C. 31
D. 30
E. 31.5

What is the IQR for this set of data?

A. 17
B. 18
C. 36
D. 21
E. 15

30.4

The mean weight of the 15 girls in Ms. Steadman's fourth-grade classroom is 59 pounds. The mean weight of the 14 boys in the class is 68 pounds. What is the mean weight of all children in the class? Show and label all steps of your work. Round to the nearest tenth.

30.5

Find the standard deviation of the following data. The mean is 22. Show your calculations. Round your final answer to the nearest tenth.

12, 12, 15, 21, 21, 24, 29, 30, 34

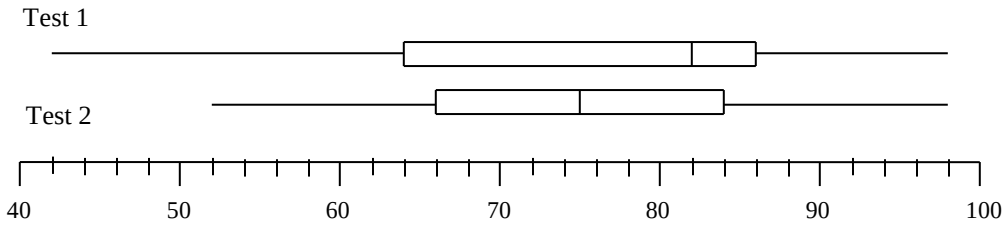
30.6

An exam was given to fifth-grade students, and the scores were normally distributed with mean 62 and standard deviation 12. What percent of students had scores between 50 and 98?

A. 83.85%
B. 68%
C. 95%
D. 81.50%
E. None of the above

31.1

Use these box plots to answer the questions below.



a) What is the median score for Test 1?

b) For Test 2, the lowest 25% of scores are between _____ and _____.

c) For which test will there be a higher standard deviation?

d) How do the box plots indicate that students scored better on Test 1?