27.2

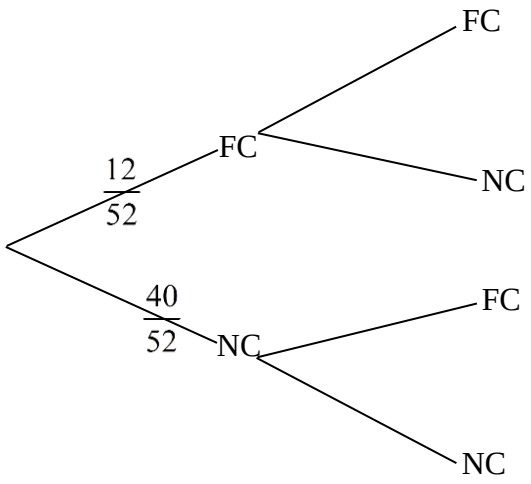
On Elm Street, there are 27 houses of which 8 do <u>not</u> have a garage. Morgan lives on Elm Street. Determine the odds in favor of Morgan living in a house that <u>has</u> a garage.

A. 8 : 19
B. 19 : 27
C. 8 : 27
D. 27 : 35
E. 19 : 8

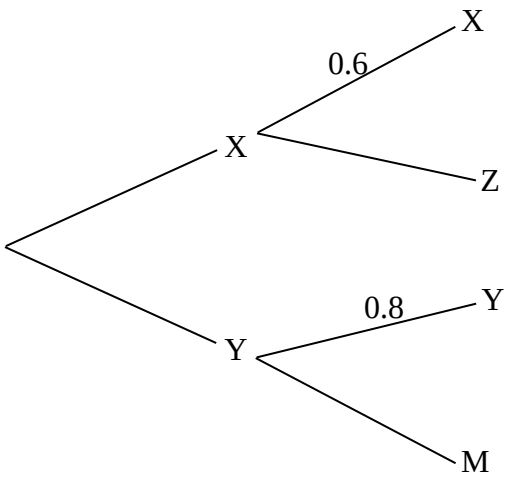
28.1

The tree diagram represents the experiment of selecting a card from a standard deck with face cards jack, queen, king, in each suit; <u>not</u> replacing it; then selecting another. Fill in the probabilities for the second set of branches. Simplify all fractions.

FC = face cards; NC = number cards



For some unusual 2-step experiment, only the data below are given. Fill in all missing probabilities on the branches and then complete parts a and b.



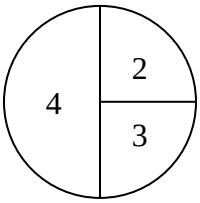
P(YY) = 0.24

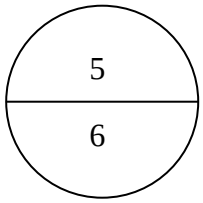
a) P(XZ) =

b) P(YM) =

28.2

Experiment: Spin Spinner 1, note the number. Then spin Spinner 2 and note the number.





Make a tree diagram for this experiment with probabilities on the branches of the tree. Include the sample space for the experiment and the associated probabilities. Use simplified fractions.

Tree diagram Sample Space Probabilities

P(first spin is an even number) =

P(the sum of the two spins is 9) =

Show the use of the Addition Rule for Probability to find:
P(first spin is an even number *or* the sum of the two spins is 9) =

28.3

If you pick a book at random from Washington School library, P(red cover) = 0.2 and P(fiction) = 0.4. Assume independence of the two events. Show your work or otherwise justify your answer.

a) P(red cover *and* fiction) =

b) P(red cover *or* fiction) =

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

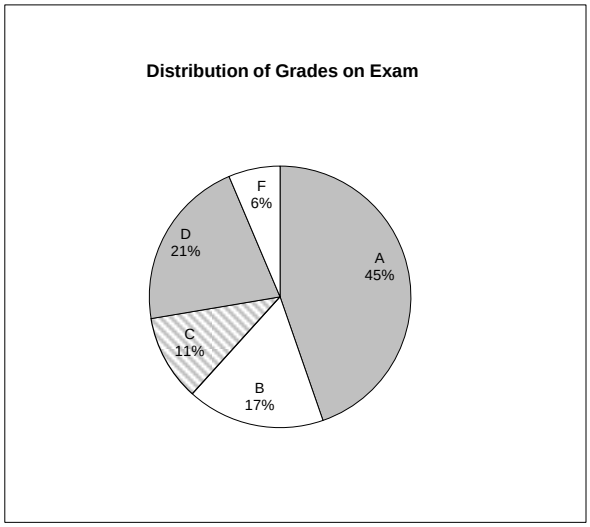
b) favorite music style

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.

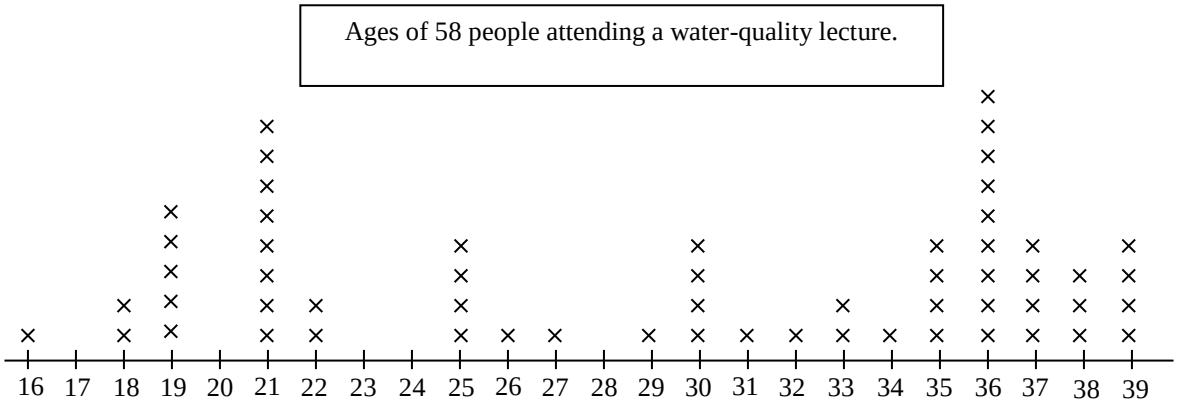
30.2

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.