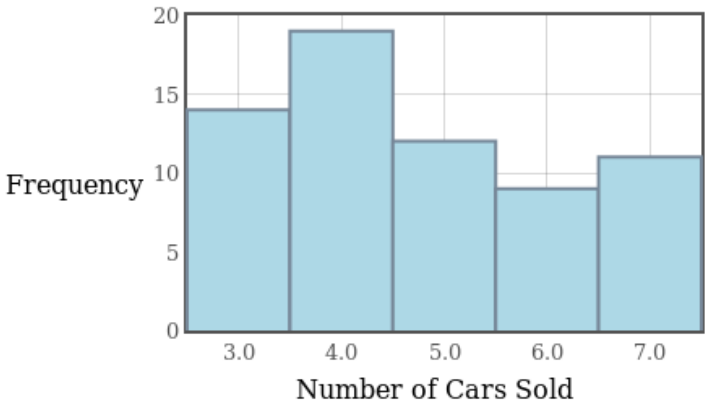
1. Sixty-five randomly selected car salespersons were asked the number of cars they generally sell in one week. Fourteen people answered that they generally sell three cars; nineteen generally sell four cars; twelve generally sell five cars; nine generally sell six cars; eleven generally sell seven cars. The data is summarized by the histogram below.



How many salespeople sold between 4 cars and 6 cars, inclusive?

A. 38 salespeople sold between 4 cars and 6 cars, inclusive.

B. 36 salespeople sold between 4 cars and 6 cars, inclusive.

C. 52 salespeople sold between 4 cars and 6 cars, inclusive.

D. 50 salespeople sold between 4 cars and 6 cars, inclusive.

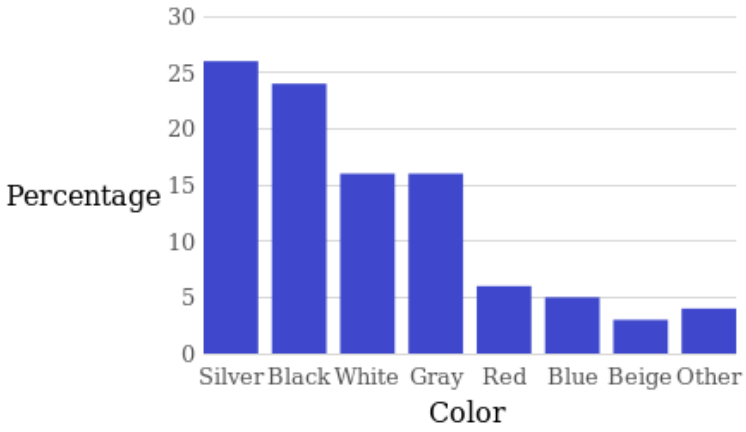
E. 28 salespeople sold between 4 cars and 6 cars, inclusive.

F. 42 salespeople sold between 4 cars and 6 cars, inclusive.

G. 34 salespeople sold between 4 cars and 6 cars, inclusive.

H. 40 salespeople sold between 4 cars and 6 cars, inclusive.

2. The most popular colors for cars and light trucks vary with region and over time. Here is the distribution of the top colors for vehicles sold globally in 2010:

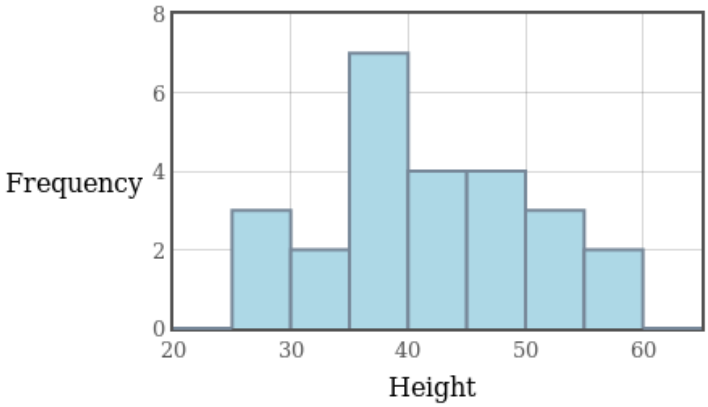


Would it be appropriate to make a pie chart with the above data?

A. Yes, it would be appropriate because every car fits into a single category. That is, all percentages add up to 100%.

B.No, it would not be appropriate because not every car fits into a single category. That is, all the percentages don't add up to 100%.

3. Below is a histogram of a random sample of the heights in feet of 25 trees sampled from the SWOCC Coos Bay Campus.



Use the histogram to estimate the mean tree height $\bar{x}$ of the sample.

A. The approximate mean tree height $\bar{x}$ of the sample is 42.3 feet.

B. The approximate mean tree height $\bar{x}$ of the sample is 41.2 feet.

C. The approximate mean tree height $\bar{x}$ of the sample is 41.6 feet.

D. The approximate mean tree height $\bar{x}$ of the sample is 41.9 feet.

E. The approximate mean tree height $\bar{x}$ of the sample is 40.9 feet.

F. The approximate mean tree height $\bar{x}$ of the sample is 41.7 feet.

G. The approximate mean tree height $\bar{x}$ of the sample is 42.1 feet.

H. The approximate mean tree height $\bar{x}$ of the sample is 40.8 feet.

4. Below is a frequency table of a random sample of 29 ages for Academy Award winning best actors.

Age	Frequency
10 to 20	1
20 to 30	6
30 to 40	5
40 to 50	4
50 to 60	3
60 to 70	5
70 to 80	5

Use the table to estimate the mean age $\bar{x}$ of the actors in this data set.

A. The mean age $\bar{x}$ of the actors in this sample is approximately 48.36 years old.

B. The mean age $\bar{x}$ of the actors in this sample is approximately 47.76 years old.

C. The mean age $\bar{x}$ of the actors in this sample is approximately 47.36 years old.

D. The mean age $\bar{x}$ of the actors in this sample is approximately 46.96 years old.

E. The mean age $\bar{x}$ of the actors in this sample is approximately 46.86 years old.

F. The mean age $\bar{x}$ of the actors in this sample is approximately 47.86 years old.

G. The mean age $\bar{x}$ of the actors in this sample is approximately 47.16 years old.

H. The mean age $\bar{x}$ of the actors in this sample is approximately 47.26 years old.

5. A political party wants to know the reaction of voters to a debate between the candidates. The day after the debate, the partys polling staff calls 1,200 randomly selected phone numbers. If a registered voter answers the phone or is available to come to the phone, that registered voter is asked whom he or she intends to vote for and whether the debate changed his or her opinion of the candidates.

The above is an example of a

A. convenience sample.

B. stratified sample.

C. self-selection sample.

D. simple random sample.

E. systematic sample.

F. cluster sample.

6. Identify the type of data that would be used to describe a response (quantitative discrete, quantitative continuous, or qualitative).

number competing computer spreadsheet software packages

A. quantitative continuous

B. qualitative

C. quantitative discrete

7. The data below is the yealy salary (in thousand's of dollars) of 32 randomly chosen graphic designers in Martiniville U.S.A.

34.4, 36.9, 39.5, 42.5, 43, 42.8, 44.6, 46.2 46.1,
46.3, 46.4, 46.8, 48.4, 48.9, 48.3, 49.5, 50.1,
50.2, 50.1, 49.9, 50.8, 51.6, 52.4, 53.4, 54,
53.5, 54, 54.1, 55.3, 57.5, 57.4, 60.7

These data come from a normal distribution. From the data, estimate the mean μ and the standard deviation σ of the distribution. Then use this information to answer the following.

What is the approximate probability that a randomly chosen graphic designer in Martiniville makes less than 56.2 thousand dollars per year?

A. The probability that a randomly chosen graphic designer in Martiniville makes less than 56.2 thousand dollars is about 0.8887.

B. The probability that a randomly chosen graphic designer in Martiniville makes less than 56.2 thousand dollars is about 0.8907.

C. The probability that a randomly chosen graphic designer in Martiniville makes less than 56.2 thousand dollars is about 0.9527.

D. The probability that a randomly chosen graphic designer in Martiniville makes less than 56.2 thousand dollars is about 0.8447.

E. The probability that a randomly chosen graphic designer in Martiniville makes less than 56.2 thousand dollars is about 0.8787.

F. The probability that a randomly chosen graphic designer in Martiniville makes less than 56.2 thousand dollars is about 0.7407.

G. The probability that a randomly chosen graphic designer in Martiniville makes less than 56.2 thousand dollars is about 0.9107.

H. The probability that a randomly chosen graphic designer in Martiniville makes less than 56.2 thousand dollars is about 0.8967.

8. The heights of women aged 20 to 29 are approximately Normal with mean $\mu = 64.3$ inches and standard deviation $\sigma = 2.7$ inches.

Suppose we choose a random woman from the population who is between the ages of 20 and 29. What is the approximate probability that her height will be between 62 inches and 68 inches?

A. The probability that her height will be between 62 inches and 68 inches is about 0.677.

B. The probability that her height will be between 62 inches and 68 inches is about 0.683.

C. The probability that her height will be between 62 inches and 68 inches is about 0.537.

D. The probability that her height will be between 62 inches and 68 inches is about 0.533.

E. The probability that her height will be between 62 inches and 68 inches is about 0.581.

F. The probability that her height will be between 62 inches and 68 inches is about 0.637.

G. The probability that her height will be between 62 inches and 68 inches is about 0.583.

H. The probability that her height will be between 62 inches and 68 inches is about 0.717.

9. Does the order in which wine is presented make a difference in which wine is preferred? In one study, researchers had two choices of wine presented to each subject one at a time. The subjects were then asked to choose his or her preferred wine. However, unknown to the subjects, both wines were the same.

Out of a random sample of 30 subjects 21 chose the wine that was presented to them first.

Construct a 99% confidence interval for the proportion p of subjects who preferred the first wine.

A. A 99% confidence interval is $(0.474, 0.916)$.

B. A 99% confidence interval is $(0.524, 0.906)$.

C. A 99% confidence interval is $(0.484, 0.846)$.

D. A 99% confidence interval is $(0.484, 0.956)$.

E. A 99% confidence interval is $(0.524, 0.956)$.

F. A 99% confidence interval is $(0.474, 0.846)$.

G. A 99% confidence interval is $(0.474, 0.906)$.

H. A 99% confidence interval is $(0.484, 0.916)$.

10. Does the order in which wine is presented make a difference in which wine is preferred? In one study, researchers had two choices of wine presented to each subject one at a time. The subjects were then asked to choose his or her preferred wine. However, unknown to the subjects, both wines were the same.

Out of a random sample of 25 subjects 17 chose the wine that was presented to them first.

For this particular sample, our sample proportion is $\hat{p} = 0.68$, and the margin of error at 99% confidence is $\pm 24.03\%$ Suppose we wanted to duplicate this study with a larger samples size to improve the results. Taking $\hat{p} = 0.68$, to be our initial guess p^*, find the sample size the size necessary in order to achieve a margin of error of $\pm 3\%$ at 99% confidence.

A. The sample size needed to achieve a margin of error of $\pm 3\%$ at 99% confidence is $n = 1599$.

B. The sample size needed to achieve a margin of error of $\pm 3\%$ at 99% confidence is $n = 1610$.

C. The sample size needed to achieve a margin of error of $\pm 3\%$ at 99% confidence is $n = 1597$.

D. The sample size needed to achieve a margin of error of $\pm 3\%$ at 99% confidence is $n = 1614$.

E. The sample size needed to achieve a margin of error of $\pm 3\%$ at 99% confidence is $n = 1605$.

F. The sample size needed to achieve a margin of error of $\pm 3\%$ at 99% confidence is $n = 1598$.

G. The sample size needed to achieve a margin of error of $\pm 3\%$ at 99% confidence is $n = 1603$.

H. The sample size needed to achieve a margin of error of $\pm 3\%$ at 99% confidence is $n = 1604$.

Answers

1. H.
2. A.
3. F.
4. B.
5. D.
6. C.
7. B.
8. H.
9. H.
10. E.