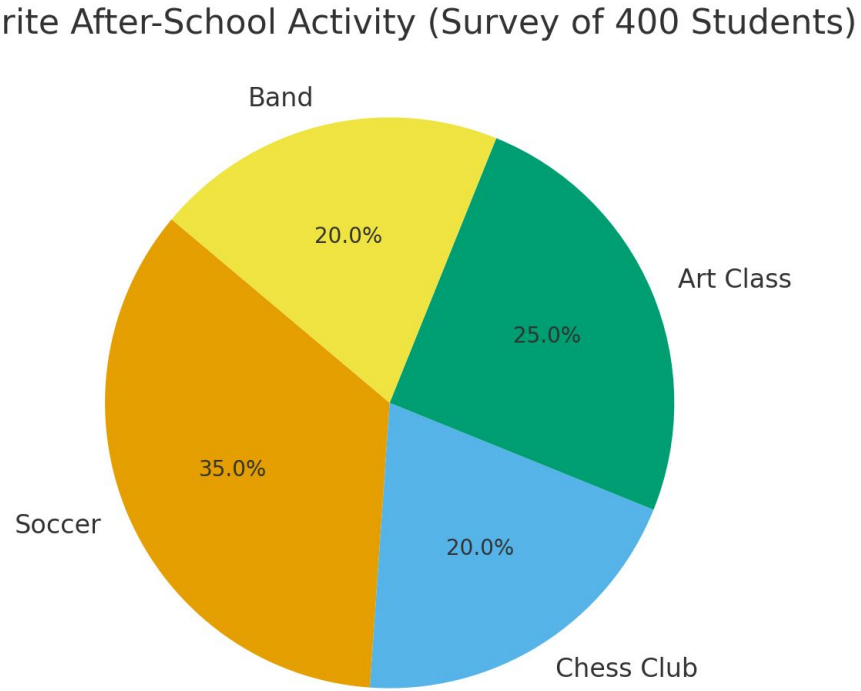
Exam 1 Test Prep

Additional questions

Question (1 equivalent)

A school surveyed 400 students about their favorite after-school activity and created the pie chart below.

How many students voted for **Soccer**?



Answer

0.35*400= 140

Question (2 equivalent)

In a running club survey, participants were tracked by their runner ID, preferred running surface, average pace (minutes/mile), and total time to complete a 10k race (minutes). The table below shows their preferred running surface, average pace, and 10k race completion times.

a) Is the variable **"Preferred Surface"** qualitative/categorical or quantitative?

b) Is the variable **"Completion Time"** qualitative/categorical or quantitative?

c) Is the variable **"Runner ID"** qualitative/categorical or quantitative?

d) What is the mode for the variable **"Avg Pace (min/mile)"**?

e) What is the frequency for the preferred surface of **"Pavement"**?

f) What is the range for the variable **"Completion Time"**?

Runner ID	Preferred Surface	Avg Pace (min/mile)	Completion Time (minutes)
201	Track	7.5	46.5
202	Pavement	8.0	49.5
203	Track	8.5	52.5
204	Trail	6.5	40
205	Pavement	8.0	49.5
206	Pavement	9.0	55.5
207	Track	7.5	46.5

Answer

A)categorical

B)quantitative

C)qualitative

D)8.0, 7.5

E)3

F)55.5-40=15.5

Question (4 equivalent)

a) The mean grade on a history exam for 80 students is 75, while the median grade is 82.

skewed to the right skewed to the left symmetrical

b) The mean daily temperature for a city during the month of July is 78°F, while the median daily temperature is 75°F.

skewed to the right skewed to the left symmetrical

Answer

1)skewed left

2) skewed right

Question (5 equivalent)

Answer whether the situation described refers to a population or a sample study.

a) A university wants to know the average number of hours per week students spend studying. They send an email survey to all 12,000 enrolled students.
b) A marketing firm wants to determine the average number of hours per week teenagers spend watching online videos. They survey 500 randomly selected teenagers across the country.

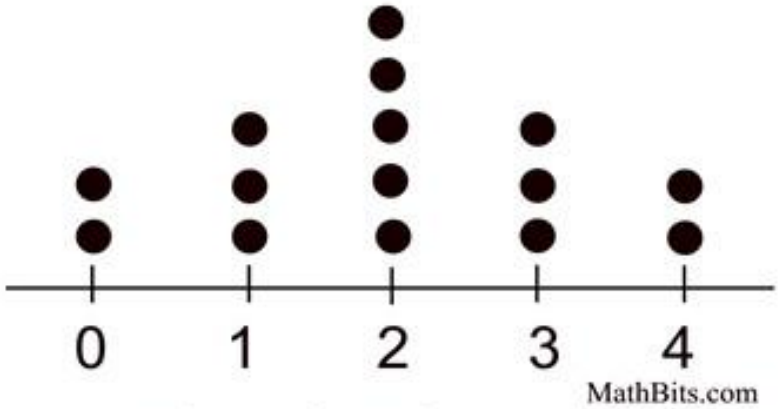
Answer

a) population
b) sample

Question (6 equivalent)

The dot plot below shows the number of siblings of 15 students. Use the graph to answer the following questions.

a) Report the mode(s) of siblings per student for this dataset.
b) Students who have at least two siblings qualify for a special scholarship. Calculate the relative frequency of these participants.



Numbers of Brothers and Sisters

Answer

a)2

b) 10/15=0.67

Question (7 equivalent)

Find the missing relative frequency

a)

X	Y
1	0.05
2	0.25
3	0.32
4	0.07
5	0.18
6	????

Answer

0.13

Question (8 equivalent)

A marine biologist recorded the weights (in kilograms) of 8 different sea turtles. The recorded weights were: 125, 132, 118, 140, 129, 135, 120, 138. Compute the mean weight of the sea turtles.

Answer

129.625 kg

Question (9 equivalent)

Find the mean for the data represented in the table below

# of pets	frequency
0	3
1	5
2	6
3	4
4	2

Answer

1.85

Question (10 equivalent)

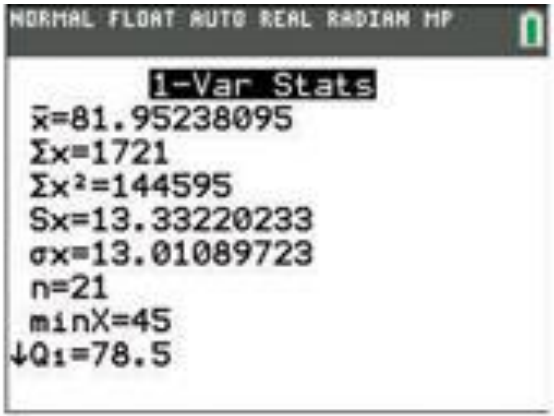
a) Determine the following values from the calculator output shown above.

Sample standard deviation:

Size of the sample:

Median of the sample:

b) Use the appropriate formulas to find the lower and upper fences using the TI-screen shot above. Show the calculations performed.



Press ENTER

Scroll results

Answer:

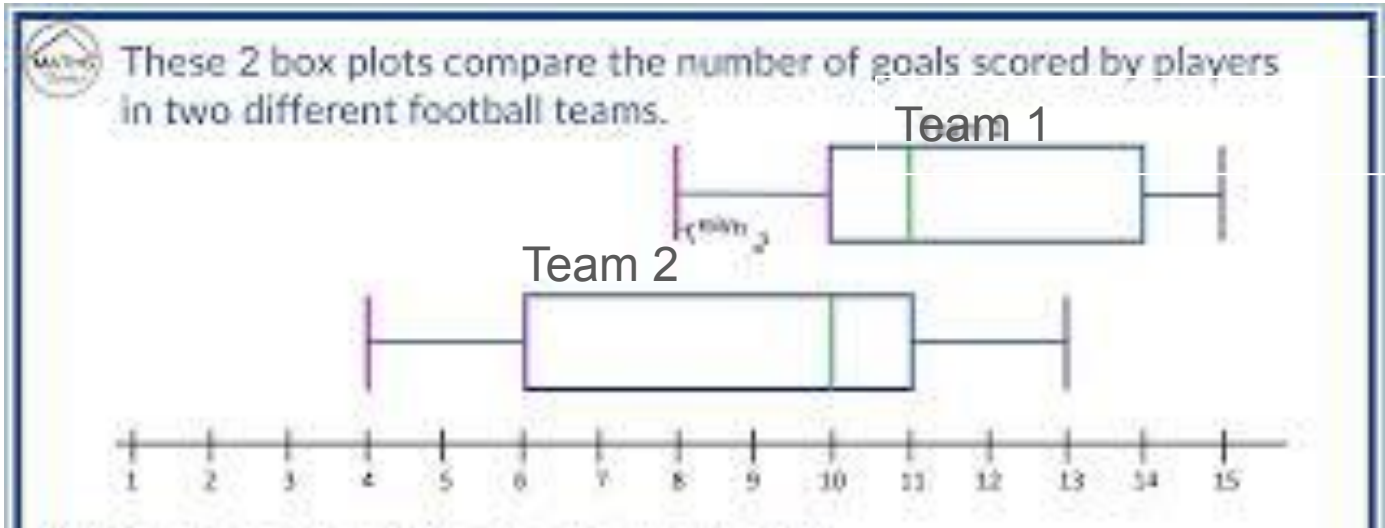
A) 13.33, 21, 86
B) Lower=59.75

Upper= 109.75

Question (11 equivalent)

a) Which group has the most variability in its **top 50%**?
b) If there were **120 people in Team 1**, how many players in Team 1 had a score higher than 14 ?
c) What is the **five-number summary** for Team 2?

Minimum:
Q1:
Q2 (median):
Q3:
Maximum:



Answer

A) Team 1
B) 30
C) Min=4

Q1=6

Med=10

Q3=11

Max=13

Question (12 equivalent)

The following values were taken from a dataset with a sample size of 5.

$\sum x=20$ $\sum x2=90$

Use the appropriate formula to find the sample variance and the sample standard deviation. Show the calculations and write your answers in the space provided.

Answer

Sd=1.58

Variance=2.5

Question (13 equivalent)

The least squares line for the monthly cost of a phone bill, y, given the number of gigabytes of data used, x, is given by the equation:

$y=25+5x$

A) Using the least squares line, what is the predicted monthly phone bill for a person who used 6 gigabytes of data?

B) Using the least squares line, what would be the number of gigabytes of data a person used if their predicted monthly phone bill was $65?

Answer

A) 55
B) 8

Question (15 equivalent)

Consider the following data set. Using your technology, find the least squares line for the data.

x	2	3	4	5	6
y	75	80	85	88	92

Using technology with the data set provided, report both the coefficients of correlation and determination

a) the coefficient of correlation is r=
b) the coefficient of determination is r squared=

Answer

y=67.2+4.2x

the coefficient of correlation is r=0.9955

the coefficient of determination is r2=0.9910

Question (14 equivalent)

play correlation game