

Collecting and Displaying Data Assignment

Knowledge

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Thinking

/3

Application

/11

Communication

/16

Answer each of the following in the space provided.

1. Identify the sampling technique(s) used in each situation. [3T]

a) Moira asked a few of the students in her class which type of beverage they preferred.

Simple random Sampling

b) A mayoral candidate sent surveys to each household and asked people to mail their responses to her office.

Systematic Sampling

c) The owner of a grocery store surveyed 5 of his full-time employees and 5 of his part-time employees.

Cluster Sampling

2. Lucy wants to collect data about how well Canadian businesses are running one year after they opened. Explain how she can use each technique to choose a sample for her survey. [4C]

a) simple random sampling

→ Lucy should first define the population from which she is collecting data from.

→ Then she choose her sample size she is willing to use in analysis.

→ This is then followed by listing the population and then assign numbers to the units.

→ Finally she should find random numbers and then select sample

c) convenience sampling

Under this technique, Lucy should approach random Canadian businessmen and women and ask them questions which will help her to gather useful data and information about Canadian businesses.

She therefore have to convince the target population while gathering information from them.

3. Classify each set of data as continuous or discrete. [4K]

a) temperature measured throughout the day

Continuous variable/data

b) the number of students in mathematics classes in every high school in Ontario

Discrete data

c) the value of an investment at the end of each month

Discrete data

d) the volume of air in an average breath taken by students in your science class

Continuous data

4 Identify the population and the sample in each situation. [6C]

a) A survey is sent to 2000 random households in Canada asking their opinions about natural gas prices.

Population $\Rightarrow$ Total households in Canada

Sample $\Rightarrow$ 2000

b) Drivers are asked to comment on the current cost of their vehicle insurance at a local gas station on Friday.

Population $\Rightarrow$ Drivers

Sample $\Rightarrow$ a Local gas station

c) Baseball fans are asked to vote for their picks for the upcoming all-star game by filling out a ballot at a Saturday afternoon game.

Population $\Rightarrow$ Baseball fans

Sample $\Rightarrow$ Saturday afternoon game

5

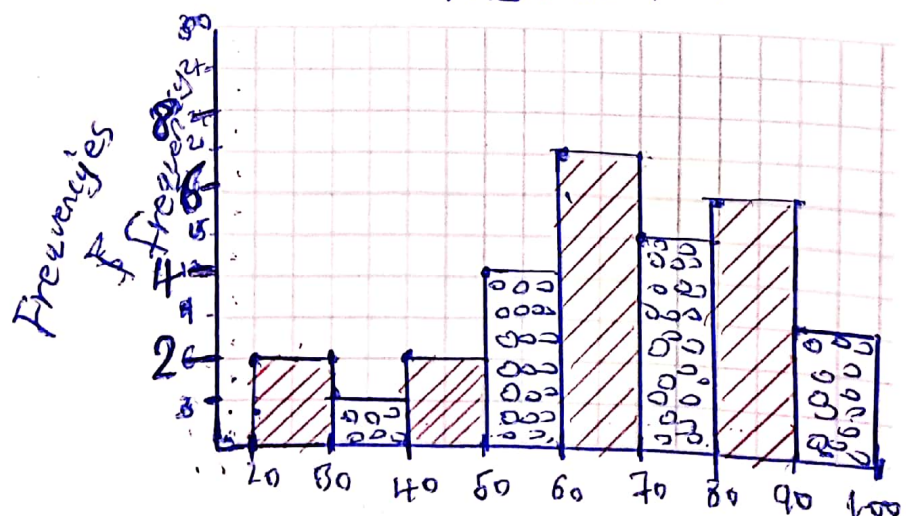
The results of a mathematics test are shown. Create a frequency table and histogram to represent the data.

83, 54, 66, 27, 93, 91, 24, 63, 68, 71,
81, 75, 88, 54, 73, 70, 62, 48, 41, 73,
54, 77, 86, 81, 92, 67, 62, 58, 31, 80

[4K, 4A, 2C]

X-Axis - class boundary
HISTOGRAM

Interval	Tally	Frequency
20 - 30]		2
30 - 40]		1
40 - 50]		2
50 - 60]		4
60 - 70]		7
70 - 80]		5
80 - 90]		6
90 - 100]		3



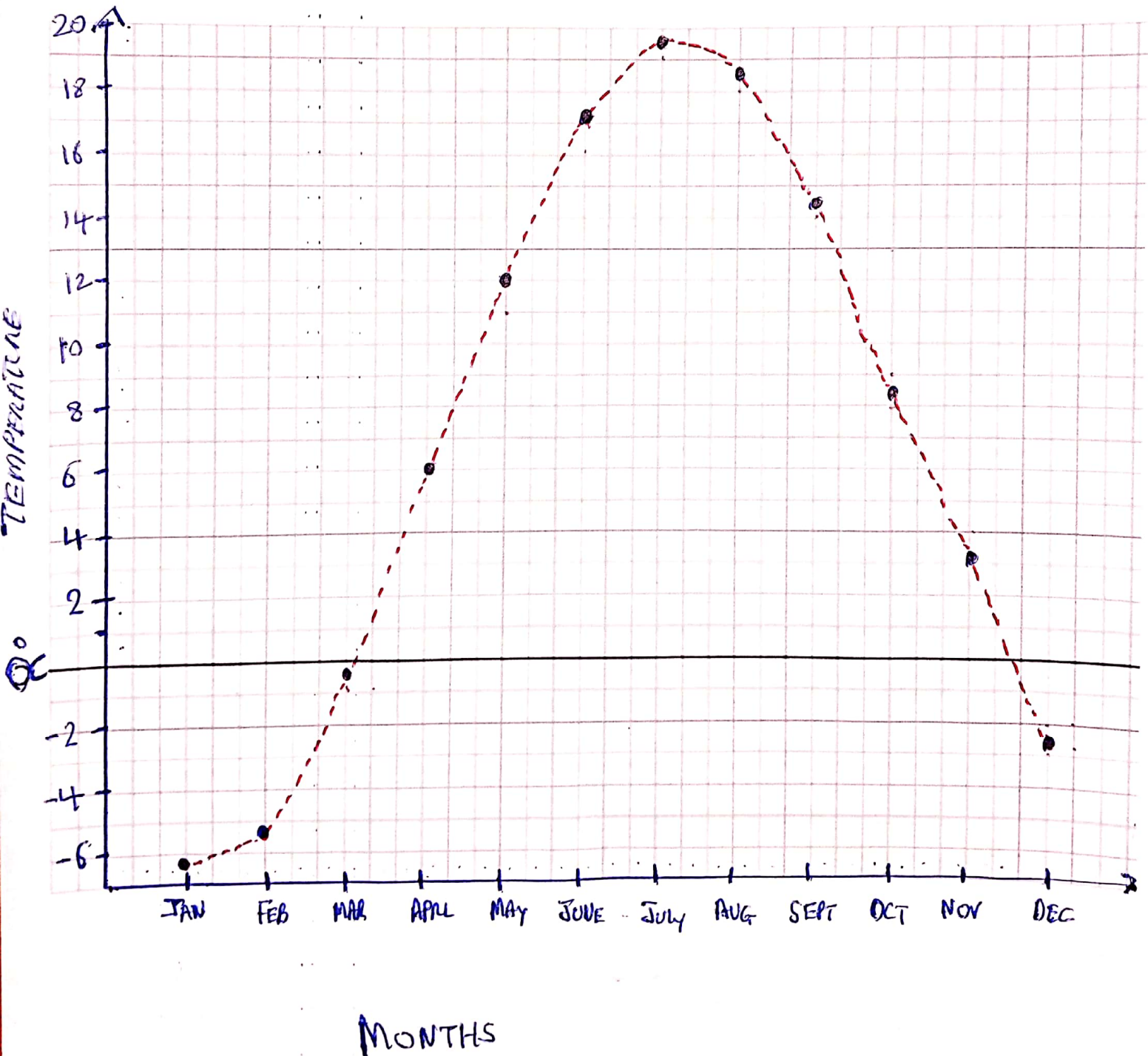
Class Boundary
X-axis units is 2, 4, 6, 8

6

The following table shows the average daily temperatures in Bowmanville for each month. Display this data in a broken line graph. [4A, 2C]

Average Daily Temperatures in Bowmanville (°C)			
January	-6.3	July	19.8
February	-5.3	August	18.4
March	-0.5	September	14.7
April	6	October	8.4
May	12.2	November	3.1
June	17.1	December	-2.1

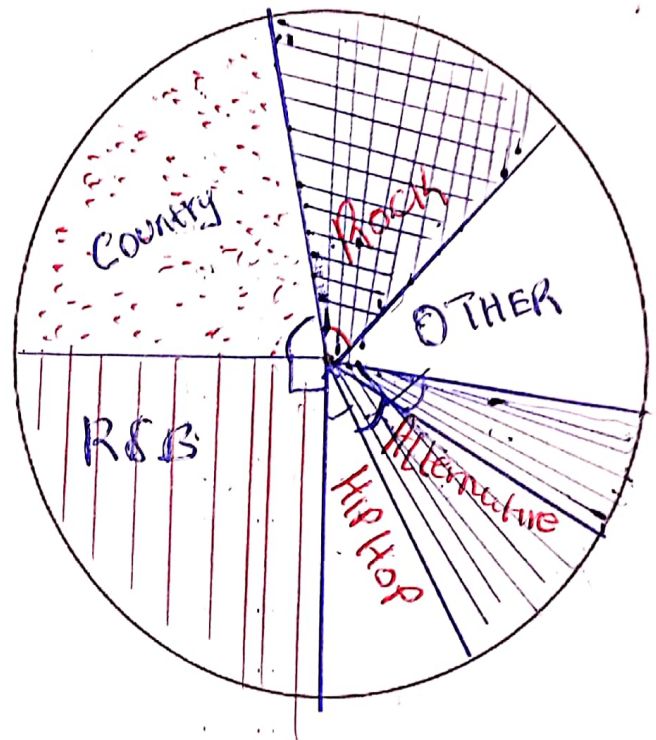
AVERAGE DAILY TEMPERATURES



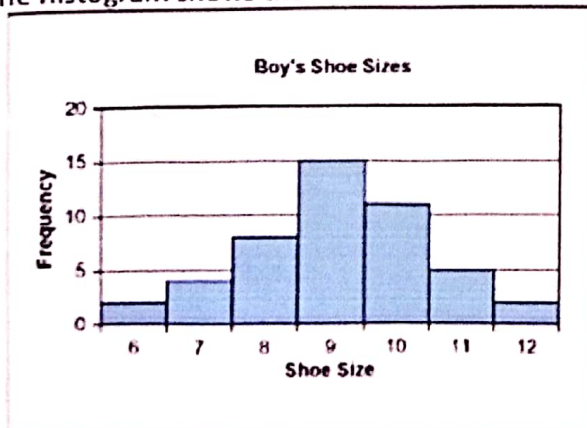
7. Tanis recorded the types of CDs sold at her music store last month. Create a circle graph to represent the data. [6K, 3A, 2C]

CD Type	Angle
Rock	66.26°
Hip Hop	26.92
R&B	90.22
Country	70.40
Alternative	70.40 54.13
Other	52.01 52.06
TOTAL	360 360°

CD Type	Number Sold
Rock	224
Hip Hop	91
R & B	305
Country	238
Alternative	183
Other	176
TOTAL	1217



8. The histogram shows the distribution of shoe sizes of the grade 9 boys. [2K, 1T]



- a) How many boys were surveyed?

$$2 + 4 + 8 + 15 + 11 + 5 + 2 = 47 \text{ boys}$$

- b) How many boys have a shoe size of 10 or larger?

$$11 + 5 + 2 = 18 \text{ boys}$$

- c) What percent of these boys have a shoe size of 10 or larger?

$$\frac{18}{47} \times 100 = 38.2979 \approx 38.3\%$$