Chapter 1– Work Sheet – Types of Data- Measurement Scales-Frequencies

- On Day 1, we have learnt about basic concepts on Data, types of Data, Variables, constants, population, sample, parameter, statistic
- Sampling [SRS only]
- Variation in Data
- Variation in Samples [page 25]
- Size of a Sample [page 25]
- Frequency, Frequency Tables, and Levels of Measurement [page 26]
- Answers and Rounding Off [page 26]
- Levels of Measurement [NOIR page 27]
- Frequency [page 28]
- Relative frequency [page 28]
- Cumulative Relative Frequency [Try It 1.14]

Questions

1.2 Data, Sampling, and Variation in Data and Sampling

For the following exercises, identify the type of data that would be used to describe a response (quantitative discrete, quantitative continuous, or qualitative), and give an example of the data.

53. number of tickets sold to a concert

54. percent of body fat

55. favorite baseball team

56. time in line to buy groceries

57. number of students enrolled at Evergreen Valley College

58. most-watched television show

59. brand of toothpaste

60. distance to the closest movie theatre

61. age of executives in Fortune 500 companies

62. number of competing computer spreadsheet software packages

Question#1

Classify each Data as qualitative or quantitative (discrete or continuous)

Q#1: A game involves a circular spinner with eight sections labeled with numbers. Z is the amount of time the spinner spins before coming to a rest.

Q#2: Y is the number of balloons at a randomly chosen birthday party.

Q#3: W is the number of cars sold by a randomly chosen dealership last month.

Q#4: The heights of your classmates.

Q#5: The number of books on your shelves.

Q#6: colour of eyes.

Q#7: Number of computers sold in the last month.

Q#8: Martial status of faculty members.

Q#9: Students weight.

Q#10: lifetime of car batteries.

Q#11: Number of burgers sold by a fast food shop.

Q#12: Brand of cars**.**

Example 1.9

Work collaboratively to determine the correct data type (quantitative or qualitative). Indicate whether quantitative data are continuous or discrete. Hint: Data that are discrete often start with the words "the number of."

a. the number of pairs of shoes you own
b. the type of car you drive
c. the distance it is from your home to the nearest grocery store
d. the number of classes you take per school year.
e. the type of calculator you use
f. weights of sumo wrestlers
g. number of correct answers on a quiz
h. IQ scores (This may cause some discussion.)

Question 2 What type of measure scale is being used? Nominal, ordinal, interval or ratio:

1. High school soccer players classified by their athletic ability: Superior, Average, Above average.
2. Baking temperatures for various main dishes: 350, 400, 325, 250, 300.
3. The colors of crayons in a 24-crayon box.
4. Social security numbers.
5. Incomes measured in dollars.
6. A satisfaction survey of a social website by number: 1 = very satisfied, 2 = somewhat satisfied, 3 = not satisfied.
7. Political outlook: extreme left, left-of-center, right-of-center, extreme right.
8. Time of day on an analog watch.
9. The distance in miles to the closest grocery store.
10. The dates 1066, 1492, 1644, 1947, and 1944.
11. The heights of 21–65 year-old women.
12. Common letter grades: A, B, C, D, and F.

Question 3 Twenty students were asked how many hours they worked per day. Their responses, in hours, are as follows: 5; 6; 3; 3; 2; 4; 7; 5; 2; 3; 5; 6; 5; 4; 4; 3; 5; 2; 5; 3.

Complete the table for the given Data values:

Data Value	Frequency	Relative Frequency	Cumulative Relative Frequency
2			
7			

Question 4 For the following provided Information answer the questions at the end:

Remember, you count frequencies. To find the relative frequency, divide the frequency by the total number of data values. To find the cumulative relative frequency, add all of the previous relative frequencies to the relative frequency for the current row.

Heights [Inches]	Frequency	Relative Frequency	Cumulative Relative Frequency
59.95-61.95	5		
61.95-63.95	3		
63.95-65.95	15		
65.95-67.95	40		
67.95-69.95	17		
69.95-71.95	12		
71.95-73.95	7		
73.95-75.95	1		

a) find the percentage of heights that are less than 65.95 inches.
b) The percentage of heights that are from 67.95 to 71.95 inches is: ____.
c) The percentage of heights that are from 67.95 to 73.95 inches is: ____.
d) The percentage of heights that are more than 65.95 inches is: ____.
e) The number of players in the sample who are between 61.95 and 71.95 inches tall is: ____.
f) What kind of data are the heights [Quantitative Discrete, Quantitative Continuous]?
   [a. 23%   b. 29%   c. 36%   d. 77%   e. 87   f. quantitative continuous]