What's Going On?

Checking In

Minds on Basic Stats

Action! One-Variable and Two-Variable Data

Consolidation Class Data Analysis

Learning Goal - I will be able to distinguish situations requiring one-variable and two-variable analyses.

Hello.

Today we will be getting textbooks for this course. Hooray!

During RAFT, I will be asking small groups to head down to the library, sign out a text, and come back.

Thanks for your cooperation.

Why textbooks?

1. It saves printing off excess worksheets that are often only completed by a fraction of the class.

2. The solutions to problems are available in the back.

3. There are more questions available to students who would like additional practice.

4. There are lessons / explanations of concepts within the textbook to help if you were absent or are unclear.

Minds on

Basic Stats

Determine the mean, median and mode of each data set given below.

A. 1 4 2 5 3 7 8 1

B 2 6 2 8 5 8 6

Mean - The sum of a set of data divided by the number of data. Commonly referred to as the average.

Median - The middle value in an ordered set of data.

Mode - The most common value in a set of data.

Determine the mean, median and mode of each data set given below.

1 4 2 5 3 7 8 1

ordered: 1 1 2 3 4 5 7 8

mean: $\frac{31}{8} = 3.9$

median: $\frac{3+4}{2} = 3.5$

mode: 1

2 6 2 8 5 8 6

ordered: 2 2 5 6 6 8 8

mean: $\frac{37}{7} = 5.3$

median: 6

mode: 2, 6, 8

Action!

One-Variable and Two-Variable Data

Variable - In statistics, an attribute that can be measured, such as height, or counted, such as number of televisions in a household.

Categorical Variable - A variable whose attribute is a category rather than a number.

Continuous Data - Data that can have any numerical value within an interval; for example, the heights of students in our class.

Action!

One-Variable and Two-Variable Data

Bar Graph - A graph that uses bars to represent data visually. Used to display categorical data.

Histogram - A bar graph that is used to display the frequencies of intervals of values. The bars touch if the intervals or data are continuous.

Scatter Plot - A graph that compares two sets of related data. Shows two-variable data as points plotted on a Cartesian plane.

Dot Plot - A statistical graph similar to a scatter plot. Used to display categorial data.

Action!

One-Variable and Two-Variable Data

A survey of Grade 12 students included a question asking whether they had part-time jobs. The table shows a tally of the results by home form.

Home Form	Tally
12A	𝍸
12B	𝍸 |
12C	||
12D	𝍸 |||
12E	𝍸 ||
12F	𝍸 |
12G	|||
12H	𝍸

a. Identify the variable(s).

Home Form

"categorical"

b. What type of graph should be used to display the data? Why?

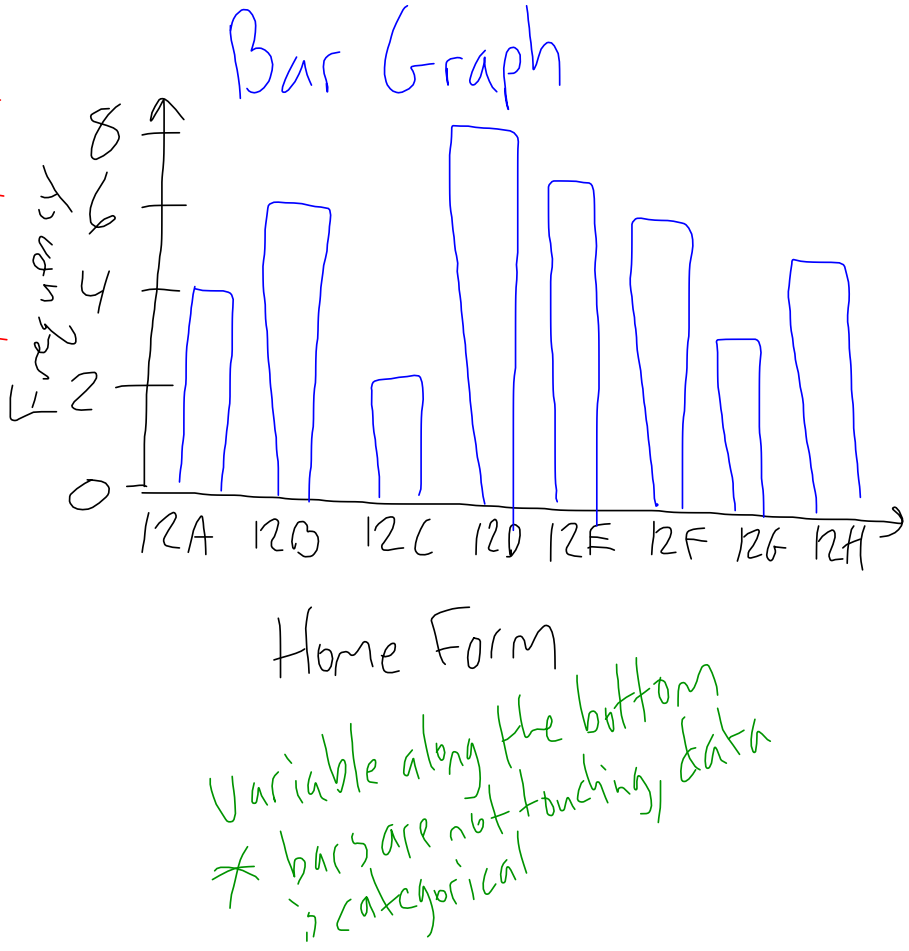
- Bar Graph
- Dot Plot

Action!

One-Variable and Two-Variable Data

Home Form	Tally
12A	4
12B	6
12C	2
12D	8
12E	7
12F	6
12G	3
12H	5

c. Draw an appropriate graph.

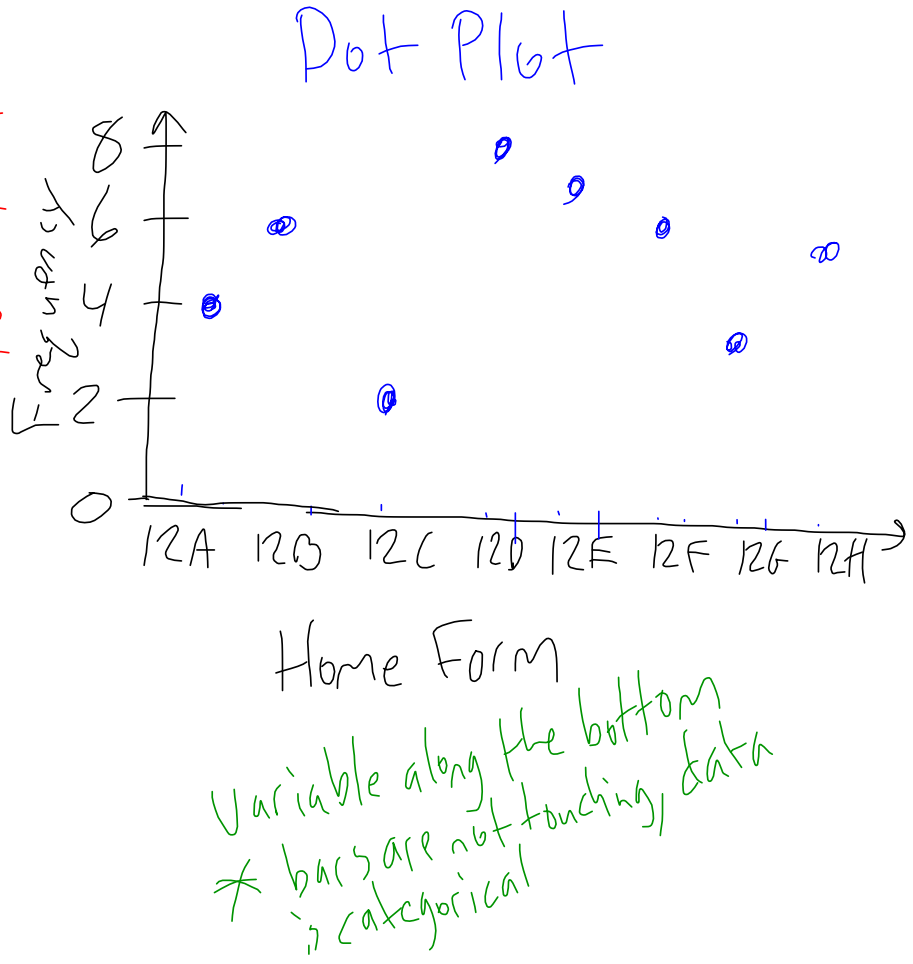


Action!

One-Variable and Two-Variable Data

Home Form	Tally
12A	4
12B	6
12C	2
12D	8
12E	7
12F	6
12G	3
12H	5

c. Draw an appropriate graph.



Variable along the bottom
* bars are not touching, data is categorical

Action!

One-Variable and Two-Variable Data

Home Form	Tally
12A	𝍸
12B	𝍸 |
12C	||
12D	𝍸 |||
12E	𝍸 ||
12F	𝍸 |
12G	|||
12H	𝍸

d. Give two descriptive statements about this data set.

Home form 12D has the most students with jobs.

Home form 12G has fewer students with jobs than home form 12E.

Action!

One-Variable and Two-Variable Data

The table below shows the results of a survey of 15 teenagers.

Age (years)	14	16	17	15	18	19	19	18	13	15	16	16	16	14	17
Physical Activity (hours)	3	0	4	10	1	6	5	9	10	0	0	14	10	7	0

a. Identify the variable(s).

Age (years) and Amount of Physical Activity (hours)

b. What type of graph would be appropriate for this data set? Why?

Scatter plot! We have two related / numerical variables.

Action!

One-Variable and Two-Variable Data

The table below shows the results of a survey of 15 teenagers.

Age (years)	14	16	17	15	18	19	19	18	13	15	16	16	16	14	17
Physical Activity (hours)	3	0	4	10	1	6	5	9	10	0	0	14	10	7	0

c. Pose a question that would require one-variable data analysis.

What was the average number of hours of physical activity?

d. Pose a question that would require two-variable data analysis.

How does the number of hours of physical activity relate to age.

Consolidation

Homework!

Two-Variable Data Sets

Pg. 146 - 151

2, 5, 7, 9