Pick Up and read the 4 point HW rubric and the instructions on the recording sheet.

Your homework will be graded in two ways.

For all assignments you will self-report a grade based on a 4 point rubric.

You will Keep the assignments but record your scores on a recording sheet every day. On the day of the test you will submit all assignments with the recording sheet.

On random days I will collect it and give it a score called a "Random HW check" . I will then return it to you.

IB Math ASSIGNMENT RUBRIC

Fidelity - Doing the problem as intended. It means more than just "attempting". This includes showing steps and work when appropriate. This includes using good terminology and notation.

The spirit of ***Fidelity***: I want students who produce some errors to still score well if those errors are the result of misunderstanding or small mistakes, not because they ignored directions or rushed through the assignment. Just copying the solutions does not count.

Score	Criteria
4	**ALL of these qualities are present:** ✓ Most items correct or attempted with **fidelity** and there is evidence of this. ✓ All assigned problems are completed with fidelity. ✓ Done on time [before class starts] ✓ Neat and legible
3	**Has a moderate problem in one of these areas, or has very slight problems in several areas:** ✓ Number of errors or some items done without **fidelity** ✓ Number of incomplete items ✓ Done on time ✓ Neatness/legibility

period ____ first/last name _____ **IB Math Unit:** Descriptive Stat

1. Before class starts, the following should be written on the top of your paper: **First/last name, Period, and the complete assignment.**
2. Once class starts, have your HW visible on top of your desk and the same with this recording sheet. Do not "finish" your assignment in class.
3. Using the solutions given to you in class you can edit/correct your homework but you must use ink in a color that clearly stands out from your main work.
4. Before the conclusion of HW checking, your score must be written in INK in two places:
   a) In the upper right-hand corner on your actual HW.
   b) and in column #4 below.

***Deductions:** Minus 5 points every time you do not have your recording sheet in class. Additional points could be deducted for not keeping up with the recording sheet daily.

Day (Mon,Tu, etc)	Date Assigned	**HW Description** and include Chapter as well as problems Reminder: If you are absent, you are required to check the class website for details before you return.	HW Score from 0 to 4	Explain Special situations
W	9/4	p.160, p.165, Pol67, Pol68		
F	9/6			
	/			
	/			
	/			

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F	9/6			
	/			
	/			
	/			

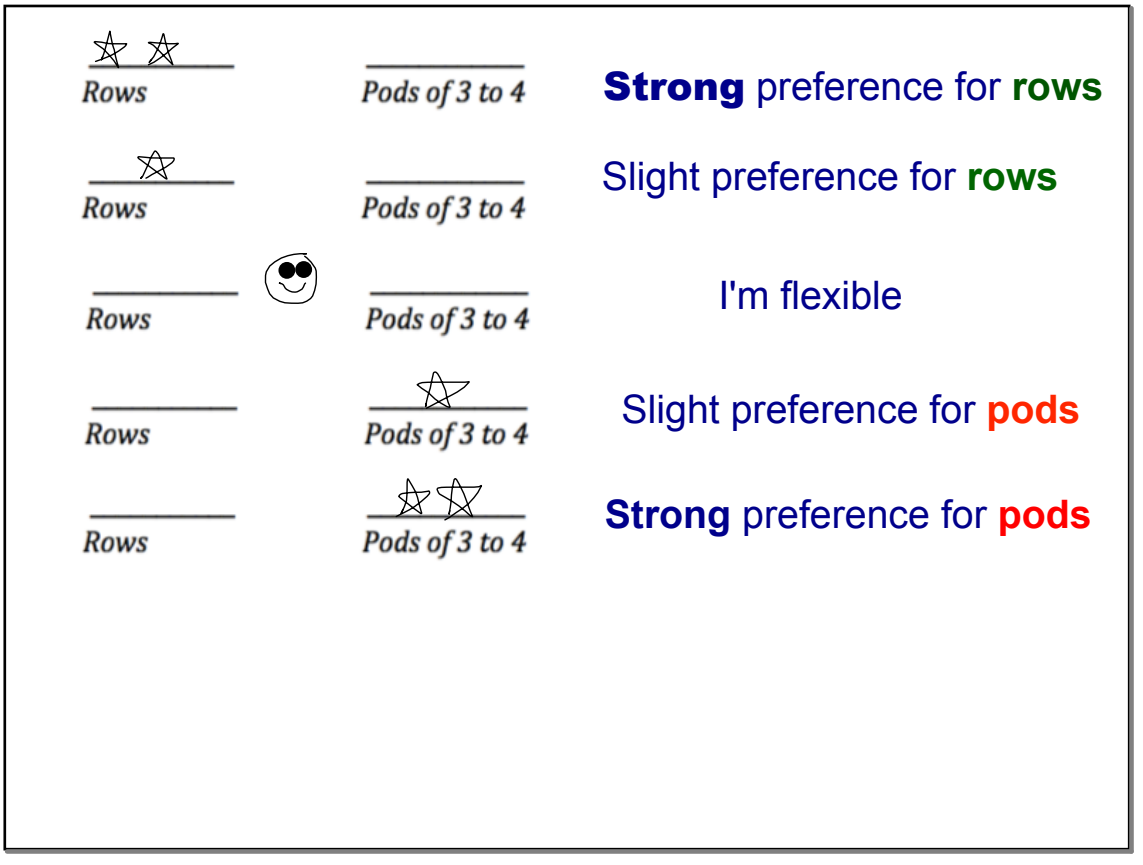
Page 4 of the Syllabus

_____ _____
First Last Name

Per__

_____ _____
Rows *Pods of 3 to 4*

Sit near front? Other?
(please no requests to sit by certain people)



Categorical Variable
assigns labels that place each individual into a particular group, called a category.

Values are usually words (but not always)

zipcodes 94563 37214

area codes 541 503

Quantitative Variable
takes number values that are quantities—counts or measurements.

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quantitative variables like age, weight, etc can be divided into categories

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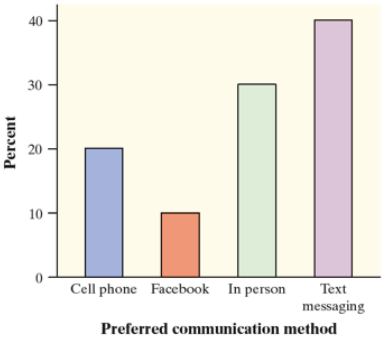
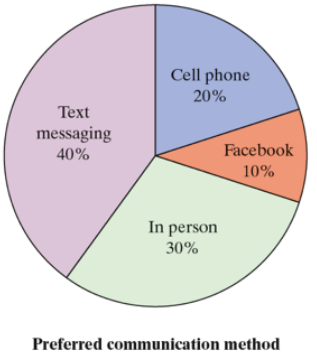
area codes 541 503

Displaying Categorical Data

To display the distribution of categorical data, make a **bar graph** or a **pie chart**.





Quantitative Variable
takes number values that are quantities—counts or measurements.

quantitative variables like age, weight, etc can be divided into categories

Today:

Create and/or interpret Histograms

for quantitative data

IB Math Day 2: How many text messages do you send a day?

How many text messages do students at Sheldon send in a day? Let's use the students in this classroom as a sample of all SHS students. *[This would not be a representative sample by the way]*

1. Record the data for the class here.

How many text messages do students at Sheldon send in a day? Let's use the students in this classroom as a sample of all SHS students. *[This would not be a representative sample by the way]*

1. Record the data for the class here.

10	25	5	65
40	15	5	70
5	30	5	10
5	10	10	90
3	80	0	45
50	4	10	20
20	30	10	200
10	15	7	15
20	6	10	10
			5

2. Use the applet on a device to create a histogram. Use ***stapplet.com*** and choose *1 quantitative variable, single group*. Make a sketch below.

3. What percent of students in the class sent less than 20 messages?

4. Describe the distribution.

5. Try changing the interval width to a smaller number if possible. Make a new sketch.

6. How did the shape of the distribution change?

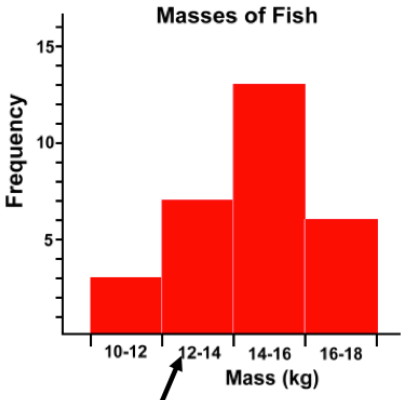
Let's formalize

But they are ***different*** too:

Bar graph

Bar graphs use categorical data

Histogram



Histograms use groups or intervals of data. More data can be covered in the same amount of space.

Describing Distribution

Shape

Center

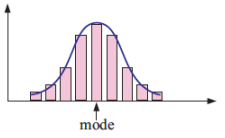
Variability

p163

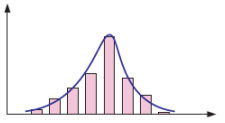
DESCRIBING THE DISTRIBUTION OF A DATA SET

Many data sets show **symmetry** or **partial symmetry** about the mode.

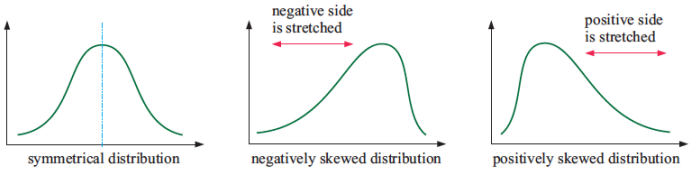
If we place a curve over the column graph we see that this curve shows symmetry. We have a **symmetrical distribution** of the data.

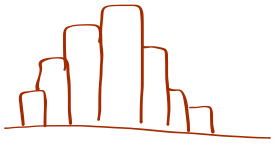


Comparing the *peas in a pod without fertiliser* data with the symmetrical distribution, we can see it has been 'stretched' on the left or negative side of the mode. We say the data is **negatively skewed**.

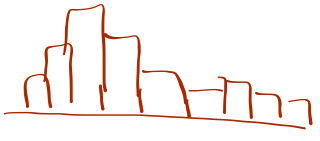


The descriptions we use are:



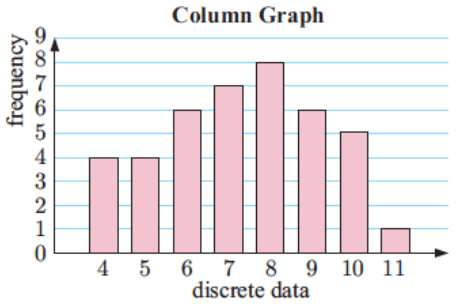


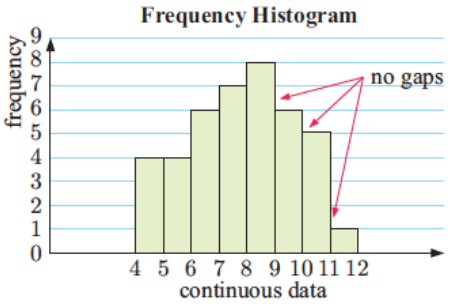
mostly symmetric



Skewed

[think "escaped to the right]





Summary of Displaying Quantitative Data: Histograms

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Group data for cleaner Picture

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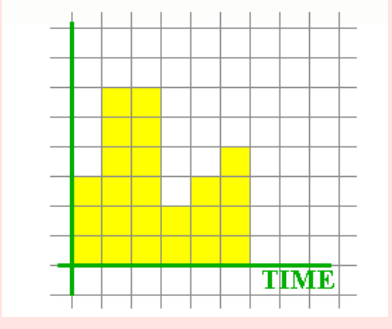
Group data for cleaner Picture
The interval includes the first, not the last #

Summary of Displaying Quantitative Data: Histograms

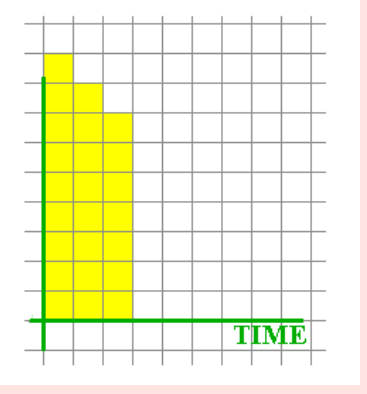
Group data for cleaner Picture
The interval includes the first, not the last #
Using too many intervals might hide patterns
5 to 10 bars

Yearly crime reports for the last six years: 3, 6, 6, 2, 3 and 4 crimes a year, with class interval sizes of one year the bar graph looks this way:



we can see that the crime rate was going up for the last three years

if we choose class intervals of two years, the impression from the bar graph is that the crime rate was going down all the time:



smaller class interval sizes show more exact picture

Application: How old are U.S. Presidents?

The table below gives the ages of all U.S. presidents when they took office.

President	Age	President	Age	President	Age
Washington	57	Lincoln	52	Hoover	54
J. Adams	61	A. Johnson	56	F. D. Roosevelt	51
Jefferson	57	Grant	46	Truman	60
Madison	57	Hayes	54	Eisenhower	61
Monroe	58	Garfield	49	Kennedy	43
J. Q. Adams	57	Arthur	51	L. B. Johnson	55
Jackson	61	Cleveland	47	Nixon	56
Van Buren	54	B. Harrison	55	Ford	61
W. H. Harrison	68	Cleveland	55	Carter	52
Tyler	51	McKinley	54	Reagan	69
Polk	49	T. Roosevelt	42	G. H. W. Bush	64
Taylor	64	Taft	51	Clinton	46
Fillmore	50	Wilson	56	G. W. Bush	54
Pierce	48	Harding	55		
Buchanan	65	Coolidge	51		

1. Make a frequency histogram of the data using intervals of width 4 starting at age 40.

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Age	Tally	Freq.
40 to <44	II	2
44 to <48	IIII	4
48 to <52	IIII IIII	9
52 to <56	IIII IIII I	11
56 to <60	IIII III	8
60 to <64	IIII	5
64 to <68	III	3
68 to <72	II	2

1. Make a frequency histogram of the data using intervals of width 4 starting at age 40.

Age	Tally	Freq.
40 to <44	II	2
44 to <48	IIII	4
48 to <52	IIII IIII	9
52 to <56	IIII IIII I	11
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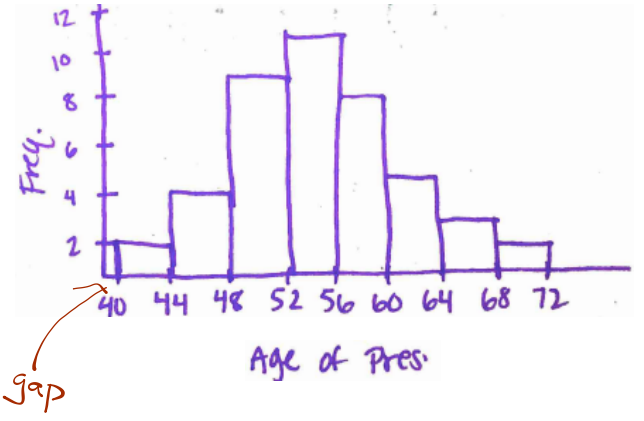
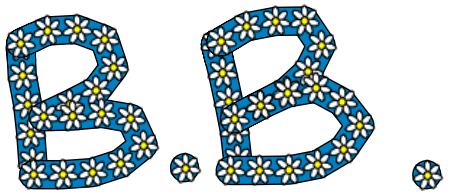
60 to <64	IIII	5
64 to <68	III	3
68 to <72	II	2



2. Describe the shape of the distribution.

3. What percent of presidents took office before the age of 60?



Effictive Graphs in motion

On Assignment #1 , it is nice to be able to enter the data and quickly plot a histogram.

Graphing Calc. Basics for IB math

Create a Histogram

Create a Histogram using a TI-83 or TI-84

June collected the distances she drove each weekend for 30 weekends. The distances, stored in the list L_1 are listed below.

31, 8, 93, 69, 75, 2, 33, 194, 83, 17, 2, 207, 99, 32, 8,
2, 75, 126, 30, 9, 211, 93, 8, 75, 198, 25, 32, 71, 9, 98

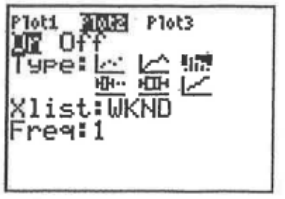
1. Enter the data
2. Adjust the window to match the data.
   You could use....

```
WINDOW
 Xmin=0
 Xmax=220
 Xscl=20
 Ymin=0
 Ymax=15
 Yscl=1
 Xres=1
```

3. Create a histogram of the distances.

Press [2nd] [STAT PLOT] and select **Plot1**. Press [ENTER] to turn the plot off.

Press [2nd] [STAT PLOT] and select **Plot2**. Press [ENTER] to turn the plot on. Select the histogram icon. Arrow down to **Xlist** and select L1



Download

4. Set the interval width to 50 for now by pressing [WINDOW] and changing the x-scale to 50.

5. Press [Graph]. Press [Trace] to view frequency per bar. You can toggle left/right to see frequencies.

Before you continue, change the interval width to 20. Using this new setting, continue with the remaining questions.

Next:

question 1 at the bottom.

Use the data on p.166 to make an appropriate histogram on your

GDC

means graphing display calculator

Then use it to create an appropriate in your notes.

Any questions on the Syllabus ?

Hans Rosling

"Simple Displays, but effective"

https://www.youtube.com/watch?v=fTznEIZRkLg

Work on Assignment #1

Also, finish reading all of the syllabus, including the section about grades