Displaying Data

Box and Whisker Plots

Dot Plots

Histograms

Stem and Leaf Plots

Frequency Tables

Relative Frequency Tables

Box and Whisker Plots

42, 47, 49, 49 | 50, 51, 51, 51, 52, 54, 54, 55, 55 | 57, 60, 61, 64

Q1

min: 42

Q1: 49.5

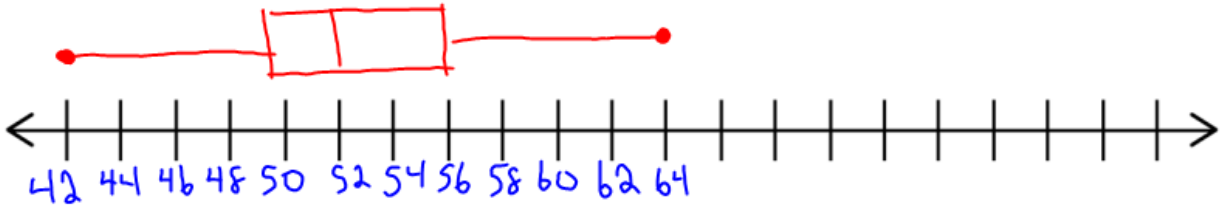
med: 52

Q3: 56

max: 64

Age At Inauguration

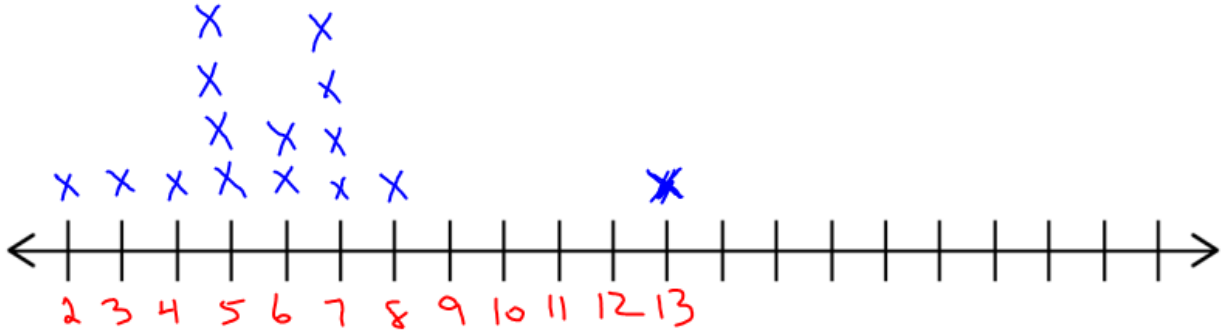
President	Age	President	Age	President	Age	President	Age
Calvin Coolidge	51	James Madison	57	Barack Obama	47	William McKinley	54
Lyndon B Johnson	55	Millard Fillmore	50	Chester A Arthur	51	James A Garfield	49
Gerald Ford	61	Zachary Taylor	64	Grover Cleveland	55	William Howard Taft	51
Theodore Roosevelt	42	James K Polk	49	Harry S Truman	60	Abraham Lincoln	52
Martin Van Buren	54						



Dot Plots

Hits in a Round of Hacky Sack

2 3 4 5 5 5 5 6
6 7 7 7 7 8 13



Stem and Leaf Plots

Nobel Laureates

Name	Age
Rudolf Ludwig Mössbauer	32
Wolfgang Ketterle	44
Joseph Leonard Goldstein	45
Aung San Suu Kyi	46
Kenneth Joseph Arrow	51
Barry James Marshall	54

Name	Age
Stanley Ben Prusiner	55
Torsten Nils Wiesel	57
Richard Axel	58
Robert Coleman Richards	59
James Alexander Mirrlees	60

Name	Age
Robert Merton Solow	63
Stanley Cohen	64
Peter Mansfield	70
Vernon Lomax Smith	75
Richard Fred Heck	79

3	2
4	4, 5, 6
5	1, 4, 5, 7, 8, 9
6	0, 3, 4
7	0, 5, 9

Key

4|4

means 44 years of age

Frequency Tables and Relative Frequency Tables

Make a frequency table and histogram of the data. Use the intervals 51-55, 56-60, 61-65, 66-70, 71-75, and 76-80.

A survey was taken that asked people their height in inches. The data are shown below.

68	69	72	64	74	56	62	58
69	65	70	59	71	67	66	64
73	78	70	52	61	68	67	66

intervals	frequency	relative frequency (%)
51 - 55	1	4% or .04
56 - 60	3	13%
61 - 65	5	21%
66 - 70	10	42%
71 - 75	4	17%
76 - 80	1	4%
total =	24*	101%

* 1/24 = .04

* 3/24 = 12.5%

Histograms

Histogram - a bar graph that shows frequency of a given set of data
- the data is broken up into class intervals and a frequency is kept for those class intervals
- the bars in a histogram are joined together

A **histogram** is like sorting bins. You have one variable and you sort data by this variable by placing them in "bins". You count how many pieces of data you have in each bin. The bar you draw represents the number in each "sorting bin".

Steps for Creating a Histogram:

1. Collect data and sort it into categories.

2. Label data as the independent or the dependent set.

3. The data is grouped using the independent variable. The frequency would be grouped using the dependent variable.

4. Draw a graph and label it. The intervals are placed on the horizontal axis (bottom) and only the number for the lower bound is shown on each interval. The frequency is placed on the vertical axis (side) and the bars are drawn using the frequency of each interval.

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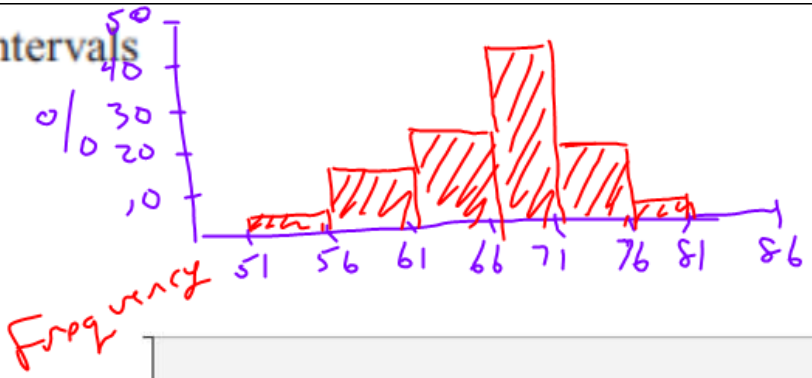

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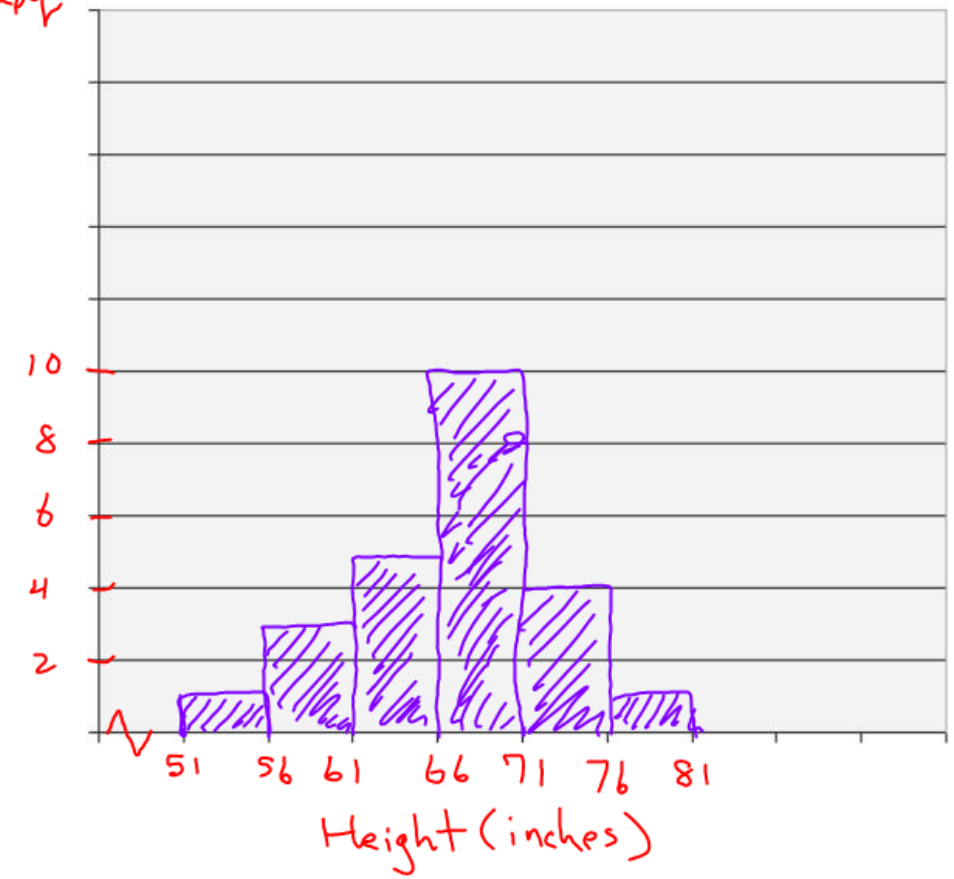


Average Time to Maturity

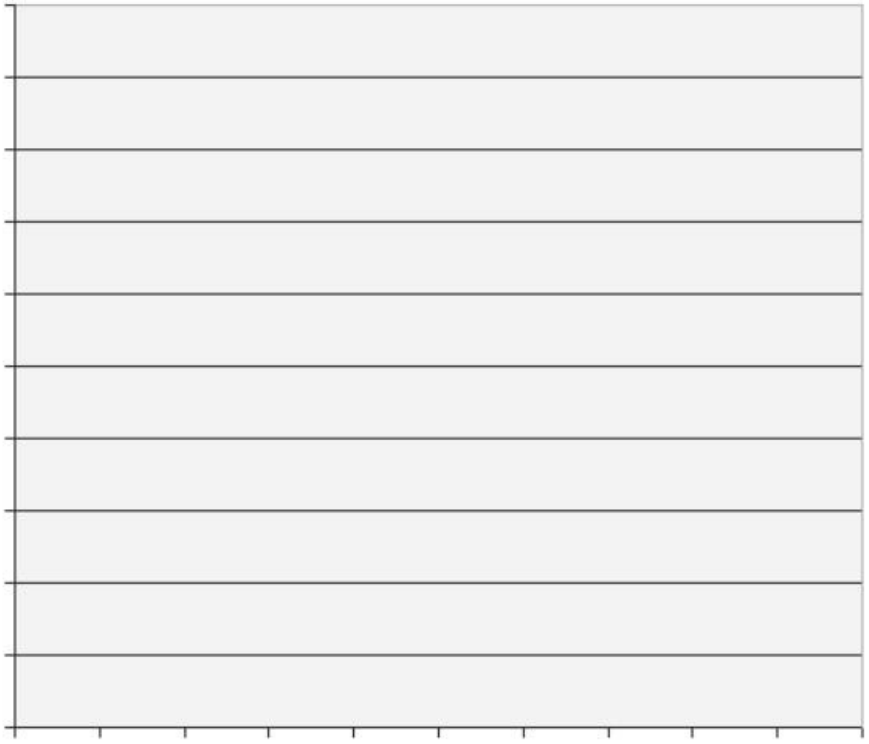
Plant	Days
Mesclun	40
Spinach	44
Endive	47

Plant	Days
Turnip	55
Swiss Chard	60
Kale	60

Plant	Days
Romano Pole Bean	60
Yukon Gold Potato	65
Cantaloupe	80

Plant	Days
Sweet Potato	90
Brussel Sprouts	90
Celery	95

Plant	Days
Tomatillo	100
Gooseneck Gourd	120
Pumpkin	120



Practice making Data Displays