

An Example of a **Frequency Table**  
for Discrete Quantitative Data

x = number of children in your family	freq (x)		
0	2	←→	2 people reported 0 children in the family
1	4	←→	4 people reported 1 children in the family
2	6	←→	6 people reported 2 children in the family
3	4	←→	4 people reported 3 children in the family
4	2	←→	2 people reported 4 children in the family

$$\sum \text{freq}(x) = 2 + 4 + 6 + 4 + 2 = 18$$

An Example of a **Class Frequency Table**  
for Discrete Quantitative Data

x: age of child	freq (x)		
0 – 2	2	←→	2 people reported having children ages 0, 1, or 2
3 – 5	8	←→	8 people reported having children ages 3, 4, or 5
6 – 8	5	←→	5 people reported having children ages 6, 7, or 8
9 – 11	10	←→	10 people reported having children ages 9, 10, or 11

0 is the first lower class limit  
 2 is the first upper class limit.  
 3 is the second lower class limit

$$\sum \text{freq}(x) = 2 + 8 + 5 + 10 = 25$$

## An Example of a **Relative** Frequency Table

An Example of a Frequency Table

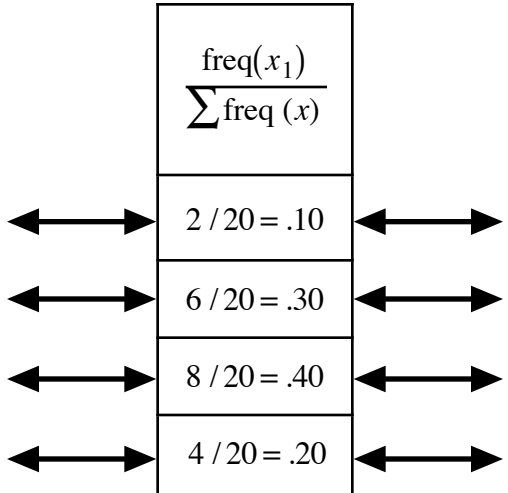
x = number of children in your family	freq (x)
0	2
1	6
2	8
3	4

$$\sum \text{freq}(x) = 20$$

An Example of a **Relative** Frequency Table

x = number of children in your family	relative freq (x) as a decimal
0	.10
1	.30
2	.40
3	.20

$$\sum \text{rel. freq}(x) = 1$$



## An Example of a **Cumulative** Frequency Table (use Upper Class Limits)

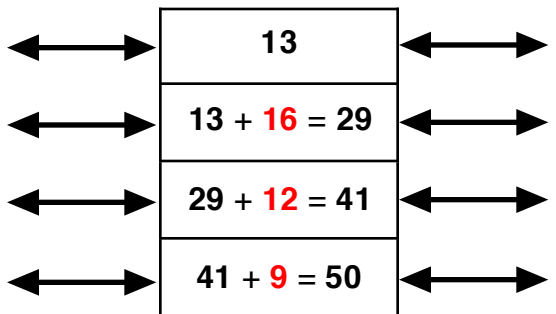
An Example of a Frequency Table

x: Number of math classes taken at FLC	Freq (x)
1	13
2	16
3	12
4	9

$$\sum \text{freq}(x) = 50$$

An Example of a **Cumulative** Frequency Table

x: Number of math classes taken at FLC	Cumulative Freq (x)
$x \leq 1$	13
$x \leq 2$	29
$x \leq 3$	41
$x \leq 4$	50

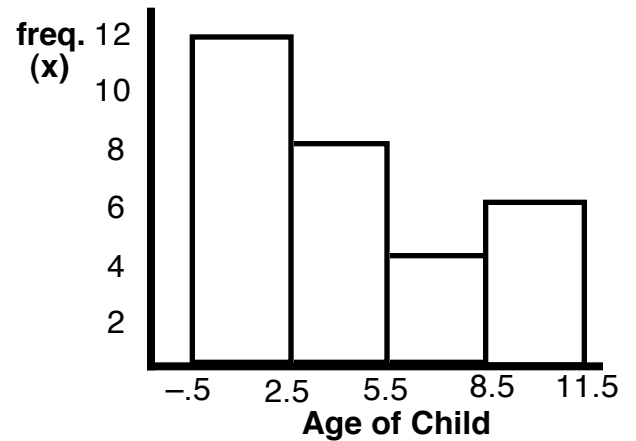


**An Example of a Class Frequency Histogram**  
(use class boundaries)

**A Class Frequency Table**

<b>Class boundaries</b>	<b>Age of child</b>	<b>Freq (x)</b>
<b>- .5 to 2.5</b>	0 – 2	12
<b>2.5 – 5.5</b>	3 – 5	8
<b>5.5 – 8.5</b>	6 – 8	4
<b>8.5 – 11.5</b>	9 – 11	6

**A Class Frequency Histogram**

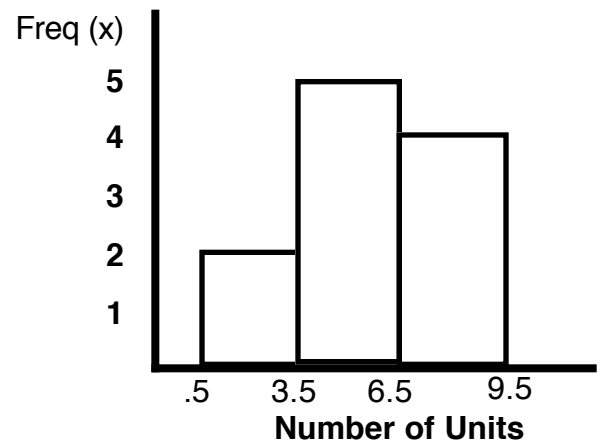


**An Example of a Class Frequency Histogram**  
(use class boundaries)

**A Class Frequency Table**

<b>Class Boundaries</b>	<b>x: number of units</b>	<b>freq (x)</b>
<b>.5 – 3.5</b>	1 – 3	2
<b>3.5 – 6.5</b>	4 – 6	5
<b>6.5 – 9.5</b>	7 – 9	4

**A Class Frequency Histogram**

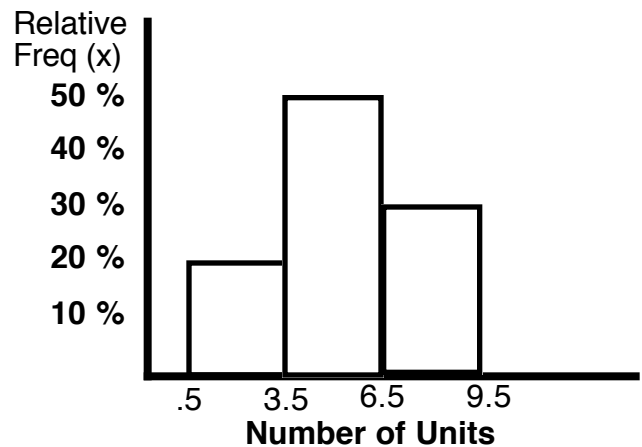


**An Example of a Relative Class Frequency Histogram**  
(use class boundaries)

**A Relative Class Frequency Table**

<b>Class Boundaries</b>	<b>x: number of units</b>	<b>freq (x)</b>
<b>.5 – 3.5</b>	1 – 3	.20
<b>3.5 – 6.5</b>	4 – 6	.50
<b>6.5 – 9.5</b>	7 – 9	.40

**Relative Class Frequency Histogram**



## Normal Distributions

### Tables with data that is Normally Distributed

An Example of a frequency table that **is** “close” to being Normally Distributed

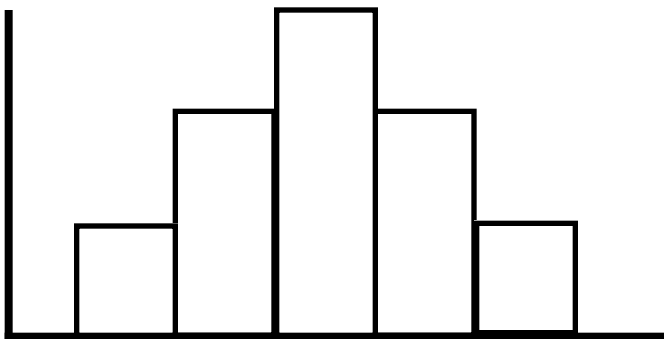
Miles driven	Freq (x)
1 – 4	10
5 – 8	15
9 – 12	25
13 – 16	14
17 – 20	11

An Example of a frequency table that **is not** “close” to being Normally Distributed

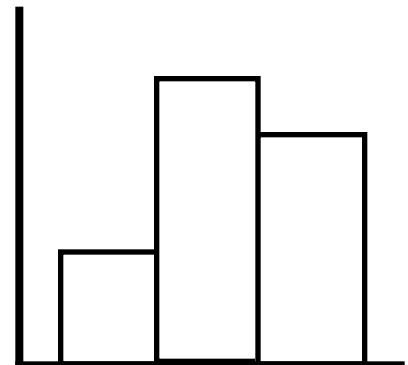
Age of child	Freq (x)
0 – 2	5
3 – 5	2
6 – 8	7
9 – 11	2
12 – 14	5

### Normal Histograms

An Example of a histogram that **is** “close” to being Normally Distributed



An Example of a histogram that **is not** “close” to being Normally Distributed

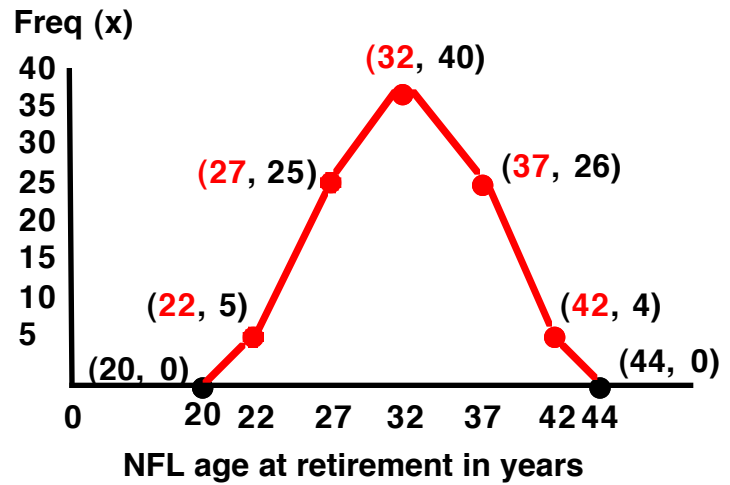


**An Example of a Class Frequency Polygon**  
(use class midpoints)

**A Class Frequency Table**

Class Midpoints	NFL age at retirement in years	Freq (x)
22	20 – 24	5
27	25 – 29	25
32	30 – 34	40
37	35 – 39	26
42	40 – 44	4

**A Class Frequency Polygon**

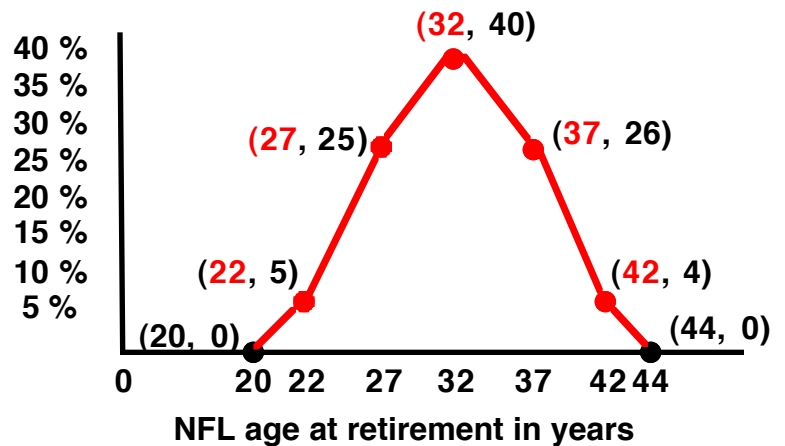


**An Example of a Relative Class Frequency Polygon**  
(use class midpoints)

**A Relative Class Frequency Table**

Class Midpoints	NFL age at retirement in years	Relative Freq (x)
22	20 – 24	.05
27	25 – 29	.25
32	30 – 34	.40
37	35 – 39	.26
42	40 – 44	.04

**A Relative Class Frequency Polygon**

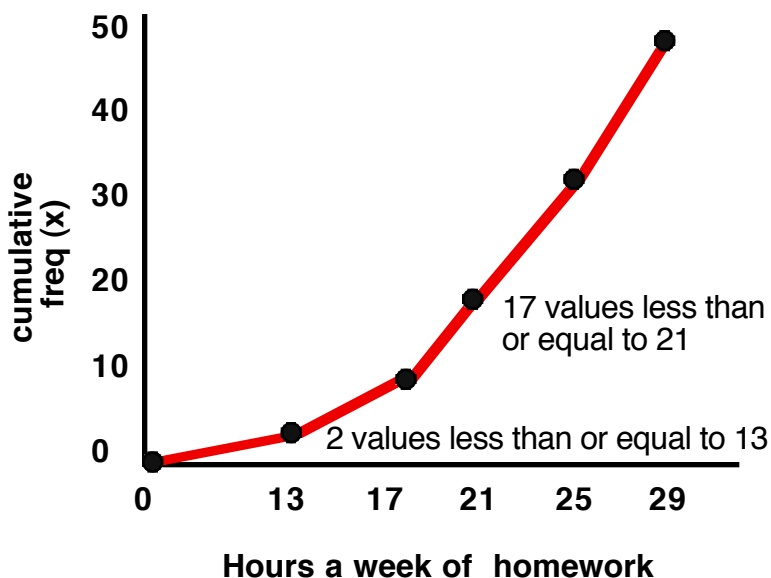


**An Example of a **Cumulative** Frequency Polygon  
Start at (0,) and use upper class limits)**

**A Cumulative** Frequency Table

Hours a week of home work	<b>Cumulative</b> freq (x)
$x \leq 13$	2
$x \leq 17$	8
$x \leq 21$	17
$x \leq 25$	32
$x \leq 29$	48

**A Cumulative** Frequency Line Graph



**An Example of a Stem and Leaf Graph**

17 students reported on the numbers of hours they worked last week.

2      4      4      10      11      12      14      16      21      23  
 23      30      31      34      35      42      45

The data listed above has been organized into the stem and leaf graph shown below. The data must be in numerical order within each class.

**Title: Hours worked last Week**

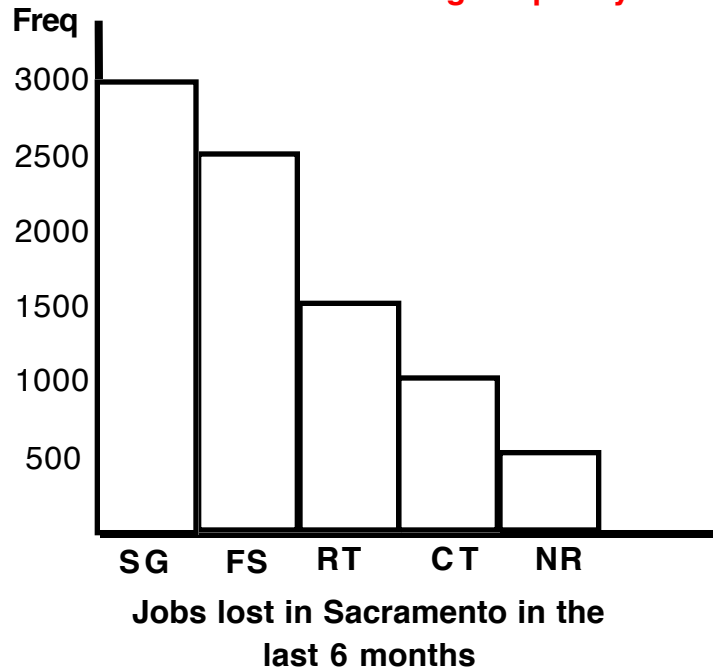
<b>0</b>	<b>2</b>	<b>4</b>	<b>4</b>		
<b>1</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>4</b>	<b>6</b>
<b>2</b>	<b>1</b>	<b>3</b>	<b>3</b>		
<b>3</b>	<b>0</b>	<b>1</b>	<b>4</b>	<b>5</b>	
<b>4</b>	<b>2</b>	<b>5</b>			

A Pareto Graph for **Nonnumeric Data**

Frequency Table for Nonnumeric Data

Jobs lost in Sacramento in the last 6 months	Freq.
Computer Tech. (CT)	1000
Nurses (NR)	500
Restaurants (RT)	1500
State Government (SG)	3000
Financial Services (FS)	2500

A Pareto Graph for Nonnumeric Data  
In order of **Decreasing Frequency**

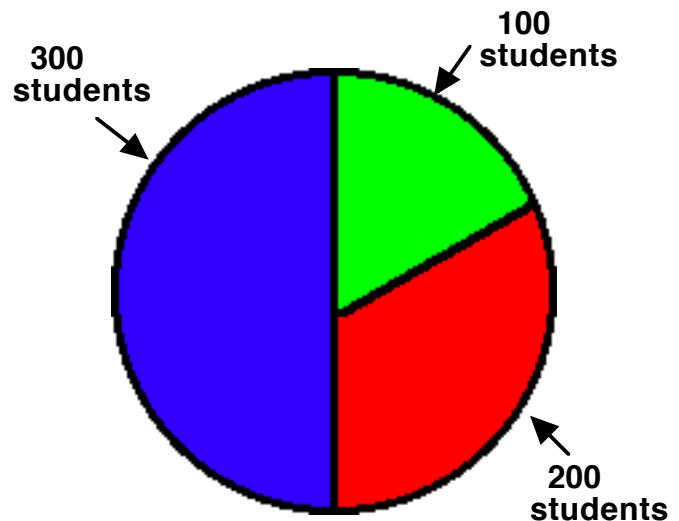


A Circle Graph for Nonnumeric Data  
(total number is shown)

Frequency Table for Nonnumeric Data

Favorite Color based on Red, Blue Green	Freq.
<b>Red</b>	<b>200</b>
<b>Blue</b>	<b>300</b>
<b>Green</b>	<b>100</b>

Circle Graph



Favorite Color between Red, Blue and Green based on 600 students