Standard Deviation on a calculator

1) Stat, Edit enter data in L1 (if data is already divided into bins with counts, enter counts in L2).
2) Stat, ->Calc, 1-Var Stats
3) Set List=L1 (if bins/counts, set FreqList=L2 otherwise leave FreqList blank) - or - 1-Var Stats L1 (,L2)
4) Calculate

Examples:

5, 10, 7, 4, 8

$\bar{x}$=6.8
n=5
s = 2.38747 (use Sx)
5-number: 4, 4.5, 7, 9, 10

Value	Frequency
10	2
11	5
12	8
13	17
14	11
15	6
16	3

$\bar{x}$=13.15
n=52
s = 1.4469 (use Sx)
5-number: 10, 12, 13, 14, 16

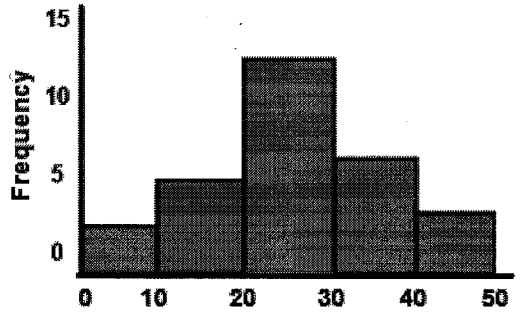
'Mound shaped' vs. Normal

Avoid describing shape of a distribution as 'normal'. Instead, use 'mound shaped'.

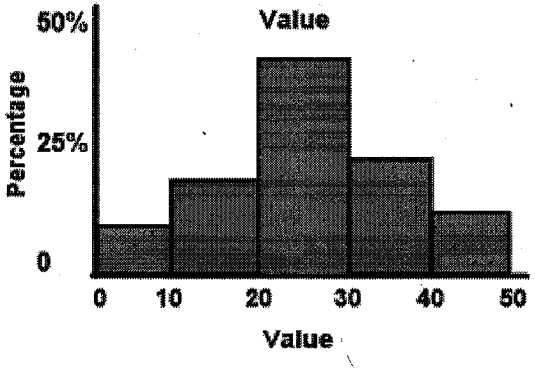
Frequency Histograms and Ogives

Dividing each count value by total gives percentages and produces a ***relative frequency histogram.***

Value	Frequency
0-9	2
10-19	5
20-29	12
30-39	6
40-49	3
total:	28

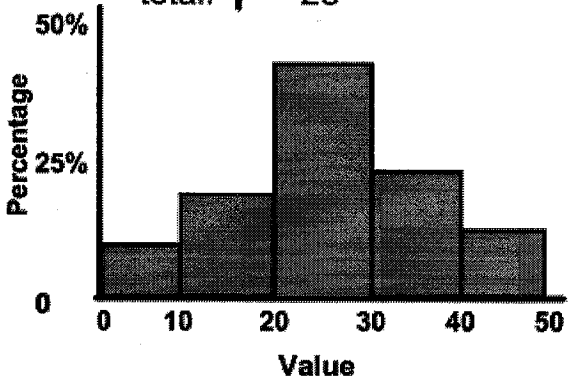


Value	Frequency
0-9	$2/28$ =7%
10-19	$5/28$ =18%
20-29	$12/28$ =43%
30-39	$6/28$ =21%
40-49	$3/28$ =11%
total:	28

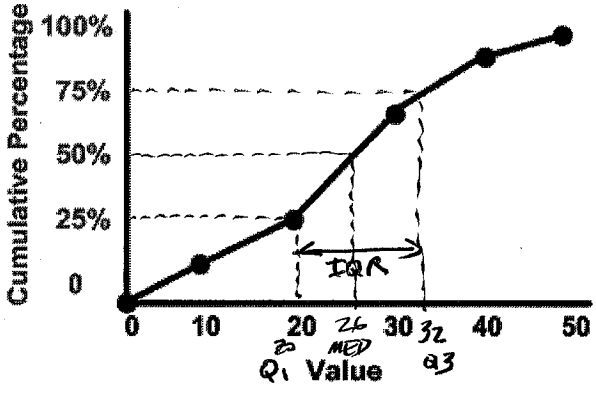


Plotting *cumulative* percentages gives a ***cumulative frequency histogram (also called an ogive).***

Value	Frequency
0-9	2/28 =7%
10-19	5/28 =18%
20-29	12/28 =43%
30-39	6/28 =21%
40-49	3/28 =11%
total:	28



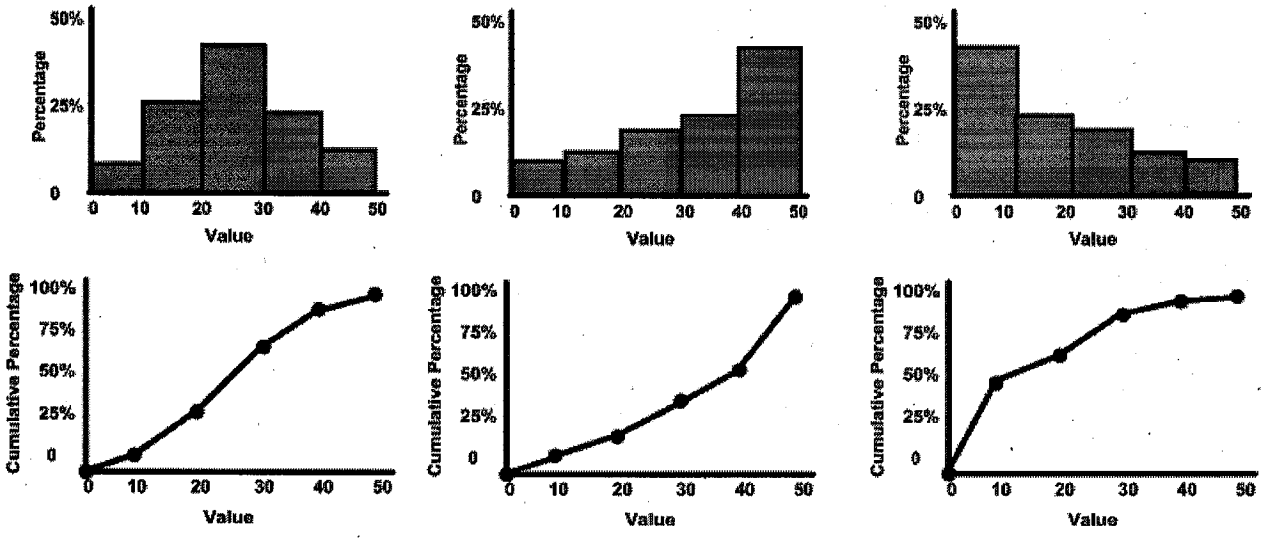
Value	Frequency	cumulative percentage:
0-9	2/28 =7%	7%
10-19	5/28 =18%	25%
20-29	12/28 =43%	68%
30-39	6/28 =21%	89%
40-49	3/28 =11%	100%
total:	28	



Cumulative Frequency Histogram or Ogive ("Oh-Jive")

Frequency Histograms and Ogives

We can get an idea of the shape of the distribution by looking at the ogive:



Symmetric **Skewed left** **Skewed right**