

Comment ignored by SPSS just for us humans!

# Ch1 Lab Results - Descriptive Statistics

\*1. Enter data, calculate sum and mean.

```
DATA LIST FREE/ (sat) variable name
BEGIN DATA
20 17 19 15 19 18 14 21
END DATA.
```

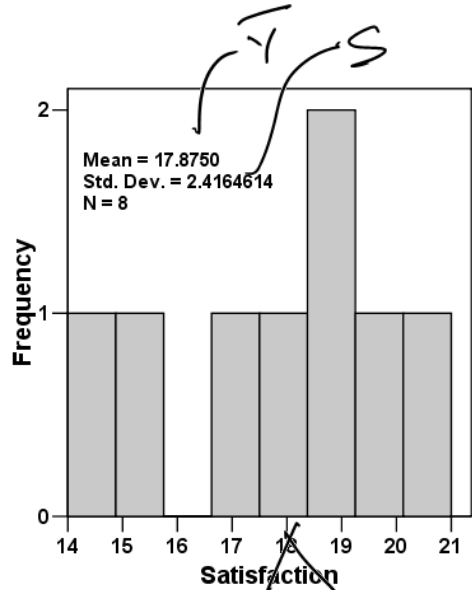
```
DESCRIPTIVES sat /STATISTICS = SUM.
```

	N	Sum
SAT	8	143.0000 $\approx \Sigma Y$

\*2. Create a frequency distribution.

```
FREQUENCIES sat /HISTOGRAM.
```

	Freq	Perc	Cumulative Perc
Valid 14.00	1	12.5	12.5
15.00	1	12.5	25.0
17.00	1	12.5	37.5
18.00	1	12.5	50.0
19.00	2	25.0	75.0
20.00	1	12.5	87.5
21.00	1	12.5	100.0
Total	8	100.0	100.0



visual  
 $\bar{y} = 17.875$   
 Point of balance

\*3. Calculations for SS and other squared deviations.

```
COMPUTE satdev = sat - 17.875.  $y - \bar{y}$ 
COMPUTE satdev2 = satdev**2.  $(y - \bar{y})^2$ 
```

```
LIST sat satdev satdev2.
SAT SATDEV SATDEV2
20.0000 2.1250 4.5156
17.0000 -.8750 .7656
19.0000 1.1250 1.2656
15.0000 -2.8750 8.2656
19.0000 1.1250 1.2656
18.0000 .1250 .0156
14.0000 -3.8750 15.0156
21.0000 3.1250 9.7656
```

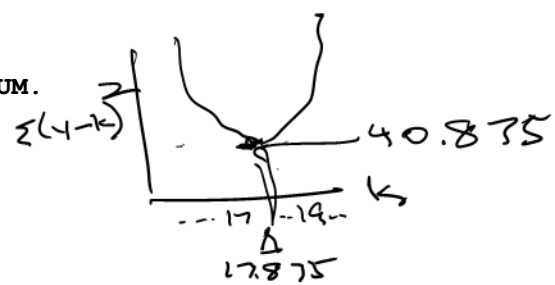
$\Sigma = 0$        $\Sigma = 40.875 = \mu N$

\*Compute deviations from values other than Mean. Compare sums.

```
COMP sdev17 = sat - 17.  $y - 17$ 
COMP sdev172 = sdev17**2.  $(y - 17)^2$ 
COMP sdev192 = (sat - 19)**2.  $(y - 19)^2$ 
```

```
DESCR satdev sdev17 satdev2 sdev172 sdev192 /STAT = SUM.
```

	N	Sum
sdev	8	0.00 $\Sigma (y - \bar{y}) = 0$
sdev17	8	7.00 $\Sigma (y - 17) \neq 0$
sdev2	8	40.875 $\Sigma (y - \bar{y})^2 = \text{MID} = \text{SS}$
sdev172	8	47.00 $\Sigma (y - 17)^2 \rightarrow \text{SS}$
sdev192	8	51.00 $\Sigma (y - 19)^2 \rightarrow \text{SS}$



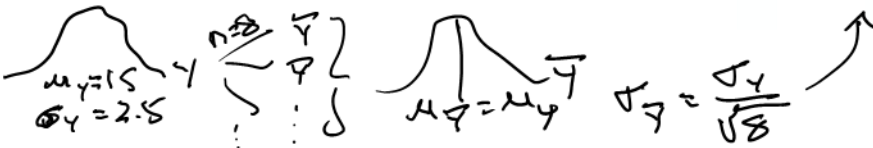
\*4. Calculate variance and standard deviation. Compare to DESCRIPTIVE output.

```
DESCRIPTIVES sat.
```

	N	Minimum	Maximum	Mean	Std. Deviation
SAT	8	14.000	21.000	17.875000	2.4164614

$\bar{y} = \frac{\Sigma Y}{N} = \frac{143}{8}$   
 $S = \sqrt{\frac{SS}{n-1}} = \sqrt{\frac{40.875}{8-1}}$

\*5. Mean of all  $\bar{y}$ s =  $\mu = 15.0$ , SD of  $\bar{y}$ s =  $2.0 / \sqrt{8} = .707$ .



Creates first column