

	SHAPE	Mean	St. Dev.	Min	Q1	Med	Q3	Max	IQR	
Score		30.2	6.96	12	26	(30)	36	40	10	
e1	+10	40.2 ↑	6.96	22 ↑	36 ↑	40 ↑	46 ↑	50 ↑	10	
e2	x2	60.4 ↑	13.68 ↑	24	52	60	72	80	20	
e3	x2+20	80.4	13.68	44	72	80	92	100	20	x2

1. No Change in shape

2. a) Both went up by 10

b) Both doubled

c) Both doubled and went up by 20

d) $\frac{x+5}{40}$ Mean $\frac{30.2+5}{40} = .88$ Med $= \frac{30+5}{40} = .875$

3. a) None of the values was affected by adding 10

b) All values doubled

c) All values doubled only

d) $\frac{x+5}{40}$ $S = \frac{6.96}{40} = .174$ $IQR = \frac{10}{40} = .25$ $Range = \frac{20}{40} = .5$

4. a. mean

b. median

c. Quartiles

d. St. Dev.

e. IQR

Linear Transformation

$$y = a \cdot x + b$$

Measures of Position

$\bar{x}$
med
Min, Q1, Q3, Max

} affected by both addition & multiplication

Measures of Spread

S
IQR
Range

} only affected by multiplication

Drill

You get a job selling vacuum cleaners door to door.

Your base pay is \$250 per month. You get a

commission of \$35 per vacuum cleaner you sell.

From the company accountants you find the following statistics about the number of vacuum cleaners sold by salespeople per month:

$$35 \cdot x + 250$$

Vacuum Cleaners

mean = 8
st. dev. = 2.5
med = 6
IQR = 6
Q3 = 10

Pay

mean = \$530
st. dev. = \$87.50
med = \$460
IQR = \$210
Q3 = \$600

What would the summary statistics for your monthly pay be?

$$3x - 14$$

$$\frac{x - 5}{2}$$

Mean = 25

Med = 27

s = 4.9

$Q_1 = 12$

IQR = 18

Min = 2

Mean = 64

Med = 67

s = 14.7

$Q_1 = 22$

IQR = 54

Min = -8

Mean = 10

Med = 11

s = 2.45

$Q_1 = 3.5$

IQR = 9

Min = -1.5

