

**FAILURE TO COMPLETE RELATED TABLES WILL RESULT IN 30% REDUCTION IN GRADE**

1. Calculate related means

Class	Frequency of Student	Number of AP/IB classes	Give meaningful title	Grades	Frequency of Grade	Give meaningful title	Give meaningful title
Freshman	75	1		90-100	20		
Sophomores	125	2		80-89	15		
Juniors	200	4		70-79	10		
Seniors	100	3		60-69	5		

Number of AP/IB classes Mean State as a fraction \_\_\_\_\_ Round to nearest tenth \_\_\_\_\_

Grades Mean State as fraction \_\_\_\_\_ Round to nearest tenth \_\_\_\_\_

2. Calculate related Variance and Standard Deviation (data is same as above, no need to recalculate mean)

Class	Frequency of Student	Number of AP/IB classes	Give meaningful title	Grades	Frequency of Grade	Give meaningful title
Freshman	75	1		90-100	20	
Sophomores	125	2		80-89	15	
Juniors	200	4		70-79	10	
Seniors	100	3		60-69	5	

TOP of variance fraction of the number of AP/IB courses taken = \_\_\_\_\_

SAMPLE number of AP/IB classes Variance State as a fraction \_\_\_\_\_ Round to nearest tenth \_\_\_\_\_

SAMPLE number of AP/IB classes SD State as a fraction \_\_\_\_\_ Round to nearest tenth \_\_\_\_\_

Top of variance of Grades= \_\_\_\_\_

SAMPLE Grades Variance State as a fraction \_\_\_\_\_ Round to nearest tenth \_\_\_\_\_

SAMPLE Grades SD State as a fraction \_\_\_\_\_ Round to nearest tenth \_\_\_\_\_

Use the following formulas to answer the following questions

$$a) s = \sqrt{\frac{\sum (x - \bar{x})^2}{n - 1}}$$

$$b) s = \sqrt{\frac{\sum f \cdot (x - \bar{x})^2}{n - 1}}$$

$$c) s = \sqrt{\frac{\sum f \cdot (m - \bar{x})^2}{n - 1}}$$

3. What do these formulas calculate?  
Be specific  
use the letters a, b, and c to help in your explanation

Use the following formulas to answer the following questions

$$a) \sigma^2 = \frac{\sum (x - \bar{x})^2}{n}$$

$$b) \sigma^2 = \frac{\sum f \cdot (x - \bar{x})^2}{n}$$

$$c) \sigma^2 = \frac{\sum f \cdot (m - \bar{x})^2}{n}$$

4. What do these formulas calculate?  
Be specific  
use the letters a, b, and c to help in your explanation

Use the following formulas to answer the following questions

$$a) \bar{x} = \frac{\sum f \cdot x}{\sum f} = \frac{\sum f \cdot x}{n}$$

$$b) \bar{x} = \frac{\sum f \cdot m}{\sum f} = \frac{\sum f \cdot m}{n}$$

$$c) \bar{x} = \frac{\sum x}{n}$$

5. What do these formulas calculate?  
Be specific  
use the letters a, b, and c to help in your explanation

Use the following formulas to answer the following questions

a)  $s^2 = \frac{\sum (x - \bar{x})^2}{n-1}$

b)  $s^2 = \frac{\sum f \cdot (x - \bar{x})^2}{n-1}$

c)  $s^2 = \frac{\sum f \cdot (m - \bar{x})^2}{n-1}$

6. What do these formulas calculate?  
Be specific  
use the letters a, b, and c to help in your explanation

Use the following formulas to answer the following questions

a)  $\sigma = \sqrt{\frac{\sum f \cdot (m - \bar{x})^2}{n}}$

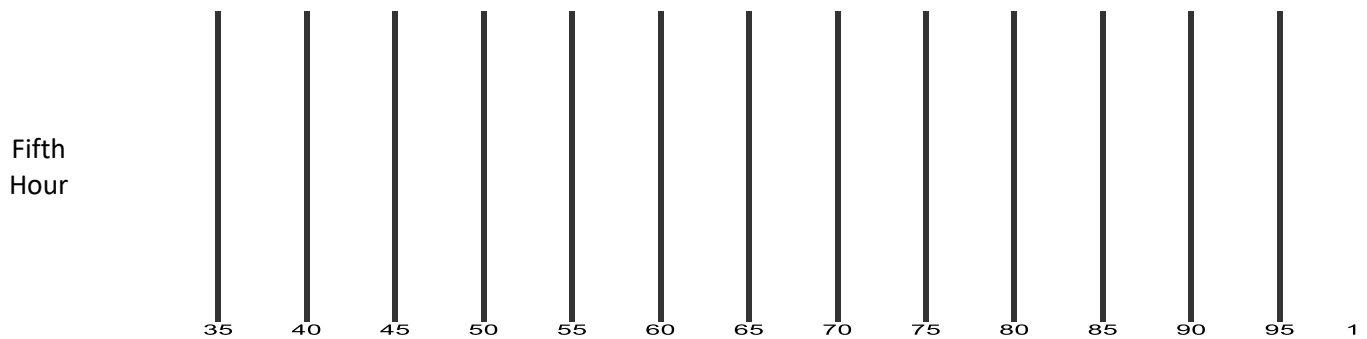
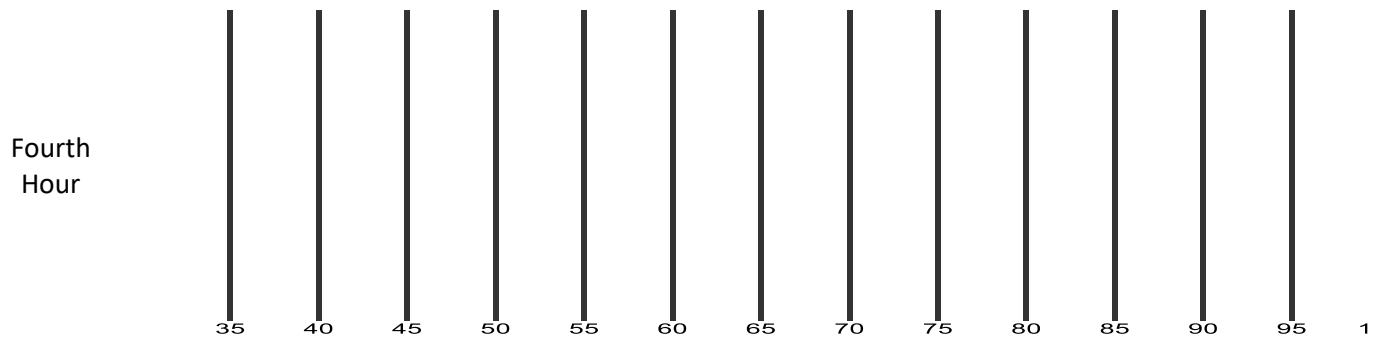
b)  $\sigma = \sqrt{\frac{\sum f \cdot (x - \bar{x})^2}{n}}$

c)  $\sigma = \sqrt{\frac{\sum (x - \bar{x})^2}{n}}$

7. What do these formulas calculate?  
Be specific  
use the letters a, b, and c to help in your explanation

D	E fourth	D	E fifth	L	M hours_4_5
	=OneVar('test_4		=OneVar('		=OneVar('con
$\bar{x}$	77.0435	$\bar{x}$	80.72	$\bar{x}$	78.8696
$\Sigma x$	1772.	$\Sigma x$	2018.	$\Sigma x$	3628.
$\Sigma x^2$	140258.	$\Sigma x^2$	166936.	$\Sigma x^2$	294072.
$s_x := s_{n-1}x$	13.0331	$s_x := s_{n-1}x$	12.9792	$s_x := s_{n-1}x$	13.2776
$\sigma_x := \sigma_{n}x$	12.7466	$\sigma_x := \sigma_{n}x$	12.717	$\sigma_x := \sigma_{n}x$	13.1325
n	23.	n	25.	n	46.
MinX	45.	MinX	40.	MinX	40.
$Q_1X$	69.	$Q_1X$	74.5	$Q_1X$	73.
MedianX	81.	MedianX	81.	MedianX	81.
$Q_3X$	86.	$Q_3X$	92.5	$Q_3X$	88.
MaxX	93.	MaxX	96.	MaxX	96.
$SSX := \Sigma(x-\bar{x})^2$	3736.96	$SSX := \Sigma(x-\bar{x})^2$	4043.04	$SSX := \Sigma(x-\bar{x})^2$	7933.22

8. Sketch all three of the lists' box plots on the grids below Label the important parts of the plot numerically



## Round ALL ANSWERS ON THIS PAGE to nearest TENTH

D	E fourth	D	E fifth	L	M hours_4_5
	=OneVar('test_4		=OneVar('		=OneVar('con
$\bar{x}$	77.0435	$\bar{x}$	80.72	$\bar{x}$	78.8696
$\Sigma x$	1772.	$\Sigma x$	2018.	$\Sigma x$	3628.
$\Sigma x^2$	140258.	$\Sigma x^2$	166936.	$\Sigma x^2$	294072.
$s_x := s_{n-1}x$	13.0331	$s_x := s_{n-1}x$	12.9792	$s_x := s_{n-1}x$	13.2776
$\sigma_x := \sigma_n x$	12.7466	$\sigma_x := \sigma_n x$	12.717	$\sigma_x := \sigma_n x$	13.1325
n	23.	n	25.	n	46.
MinX	45.	MinX	40.	MinX	40.
$Q_1 X$	69.	$Q_1 X$	74.5	$Q_1 X$	73.
MedianX	81.	MedianX	81.	MedianX	81.
$Q_3 X$	86.	$Q_3 X$	92.5	$Q_3 X$	88.
MaxX	93.	MaxX	96.	MaxX	96.
$SSX := \Sigma(x-\bar{x})^2$	3736.96	$SSX := \Sigma(x-\bar{x})^2$	4043.04	$SSX := \Sigma(x-\bar{x})^2$	7933.22

9. State the IQR of each of the lists of data as a range and as a value

- a. IQR for fourth hour as an interval \_\_\_\_\_ to \_\_\_\_\_ IQR as a value \_\_\_\_\_
- b. IQR for fifth hour as an interval \_\_\_\_\_ to \_\_\_\_\_ IQR as a value \_\_\_\_\_
- c. IQR for combined 4<sup>th</sup> and 5th hour as an interval \_\_\_\_\_ to \_\_\_\_\_ IQR as a value \_\_\_\_\_

10.

	Q1 -3IQR (note use IQR as a value)	Q1 -1.5IQR (note use IQR as a value)	Q3 +1.5IQR (note use IQR as a value)	Q3 +3IQR (note use IQR as a value)
Fourth hour				
Fifth Hour				
Combined 4 <sup>th</sup> and 5 <sup>th</sup> hour				

11. Use lists from above to answer the questions below

	Mean – SD _____ to Mean +SD _____	Mean – 2SD _____ to Mean +2SD _____	Mean – 3SD _____ to Mean +3SD _____
Fourth hour	TO	TO	TO
Fifth Hour	TO	TO	TO
Combined 4 <sup>th</sup> and 5 <sup>th</sup> hour	TO	TO	TO

**FAILURE TO COMPLETE RELATED TABLES WILL RESULT IN 30% REDUCTION IN GRADE**

12. Calculate related means

Class	Frequency of Student	Number of AP/IB classes	Give meaningful title	Grades	Frequency of Grade	Give meaningful title	Give meaningful title
Freshman	100	25		90-100	25		
Sophomores	210	55		80-89	45		
Juniors	88	75		70-79	100		
Seniors	102	145		60-69	30		

Number of AP/IB classes Mean State as a fraction \_\_\_\_\_ Round to nearest tenth \_\_\_\_\_

Grades Mean State as fraction \_\_\_\_\_ Round to nearest tenth \_\_\_\_\_

13. Calculate related Variance and Standard Deviation (data is same as above, no need to recalculate mean)

Class	Frequency of Student	Number of AP/IB classes	Give meaningful title	Grades	Frequency of Grade	Give meaningful title
Freshman	100	25		90-100	25	
Sophomores	210	55		80-89	45	
Juniors	88	75		70-79	100	
Seniors	102	145		60-69	30	

TOP of variance fraction of the number of AP/IB courses taken = \_\_\_\_\_

SAMPLE number of AP/IB classes Variance State as a fraction \_\_\_\_\_ Round to nearest tenth \_\_\_\_\_

SAMPLE number of AP/IB classes SD State as a fraction \_\_\_\_\_ Round to nearest tenth \_\_\_\_\_

Top of variance of Grades= \_\_\_\_\_

SAMPLE Grades Variance State as a fraction \_\_\_\_\_ Round to nearest tenth \_\_\_\_\_

SAMPLE Grades SD State as a fraction \_\_\_\_\_ Round to nearest tenth \_\_\_\_\_

Use the following formulas to answer the following questions

$$a) s = \sqrt{\frac{\sum (x - \bar{x})^2}{n - 1}}$$

$$b) s = \sqrt{\frac{\sum f \cdot (x - \bar{x})^2}{n - 1}}$$

$$c) s = \sqrt{\frac{\sum f \cdot (m - \bar{x})^2}{n - 1}}$$

14. What do these formulas calculate?

Be specific

use the letters a, b, and c to help in your explanation

Use the following formulas to answer the following questions

$$a) \sigma^2 = \frac{\sum (x - \bar{x})^2}{n}$$

$$b) \sigma^2 = \frac{\sum f \cdot (x - \bar{x})^2}{n}$$

$$c) \sigma^2 = \frac{\sum f \cdot (m - \bar{x})^2}{n}$$

15. What do these formulas calculate?

Be specific

use the letters a, b, and c to help in your explanation

Use the following formulas to answer the following questions

$$a) \bar{x} = \frac{\sum f \cdot x}{\sum f} = \frac{\sum f \cdot x}{n}$$

$$b) \bar{x} = \frac{\sum f \cdot m}{\sum f} = \frac{\sum f \cdot m}{n}$$

$$c) \bar{x} = \frac{\sum x}{n}$$

16. What do these formulas calculate?

Be specific

use the letters a, b, and c to help in your explanation

Use the following formulas to answer the following questions

a)  $s^2 = \frac{\sum (x - \bar{x})^2}{n-1}$

b)  $s^2 = \frac{\sum f \cdot (x - \bar{x})^2}{n-1}$

c)  $s^2 = \frac{\sum f \cdot (m - \bar{x})^2}{n-1}$

17. What do these formulas calculate?

Be specific

use the letters a, b, and c to help in your explanation

Use the following formulas to answer the following questions

a)  $\sigma = \sqrt{\frac{\sum f \cdot (m - \bar{x})^2}{n}}$

b)  $\sigma = \sqrt{\frac{\sum f \cdot (x - \bar{x})^2}{n}}$

c)  $\sigma = \sqrt{\frac{\sum (x - \bar{x})^2}{n}}$

18. What do these formulas calculate?

Be specific

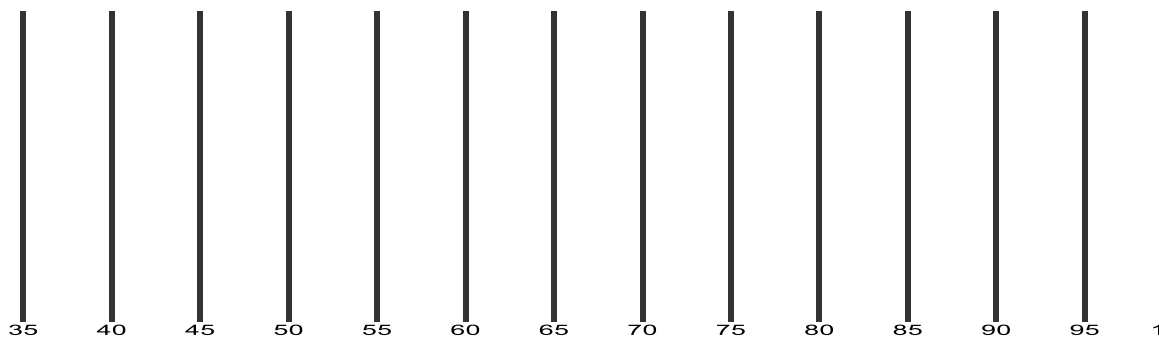
use the letters a, b, and c to help in your explanation



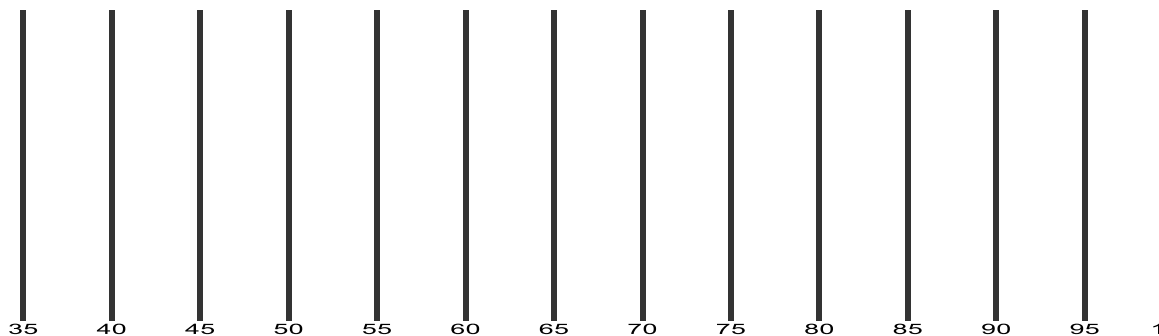
E	F hour1	H	I hour3	K	L combined_1_3
	=OneVar('		=OneVar('		=OneVar('combine
$\bar{x}$	77.7273	$\bar{x}$	76.7308	$\bar{x}$	77.1875
$\Sigma X$	1710.	$\Sigma X$	1995.	$\Sigma X$	3705.
$\Sigma X^2$	141030.	$\Sigma X^2$	159369.	$\Sigma X^2$	300399.
$s_x := s_{n-1}x$	19.6594	$s_x := s_{n-1}x$	15.8633	$s_x := s_{n-1}x$	17.5155
$\sigma_x := \sigma_{nX}$	19.2074	$\sigma_x := \sigma_{nX}$	15.5553	$\sigma_x := \sigma_{nX}$	17.3321
n	22.	n	26.	n	48.
MinX	40.	MinX	50.	MinX	40.
$Q_1X$	61.	$Q_1X$	66.	$Q_1X$	63.5
MedianX	80.	MedianX	78.	MedianX	79.5
$Q_3X$	97.	$Q_3X$	91.	$Q_3X$	94.5
MaxX	101.	MaxX	100.	MaxX	101.
$SSX := \Sigma(x-\bar{x})^2$	8116.36	$SSX := \Sigma(x-\bar{x})^2$	6291.12	$SSX := \Sigma(x-\bar{x}...$	14419.3

19. Sketch all three of the lists' box plots on the grids below Label the important parts of the plot numerically

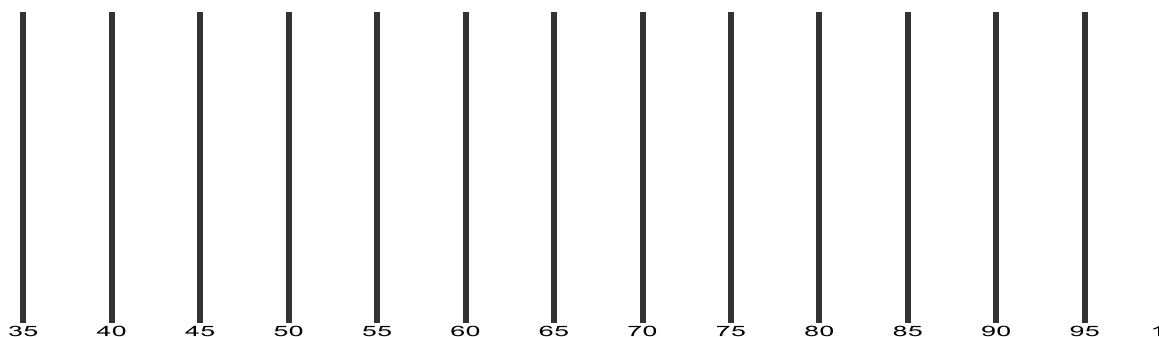
First  
Hour



Third  
Hour



Combine  
d 1<sup>st</sup> and  
3<sup>rd</sup> hour



## Round ALL ANSWERS ON THIS PAGE to nearest TENTH

E	F hour1	H	I hour3	L	M hours_4_5
	=OneVar('con		=OneVar('con		=OneVar('con
$\bar{x}$	77.7273	$\bar{x}$	76.7308	$\bar{x}$	78.8696
$\Sigma x$	1710.	$\Sigma x$	1995.	$\Sigma x$	3628.
$\Sigma x^2$	141030.	$\Sigma x^2$	159369.	$\Sigma x^2$	294072.
$s_x := s_{n-1}x$	19.6594	$s_x := s_{n-1}x$	15.8633	$s_x := s_{n-1}x$	13.2776
$\sigma_x := \sigma_n x$	19.2074	$\sigma_x := \sigma_n x$	15.5553	$\sigma_x := \sigma_n x$	13.1325
n	22.	n	26.	n	46.
MinX	40.	MinX	50.	MinX	40.
$Q_1 X$	61.	$Q_1 X$	66.	$Q_1 X$	73.
MedianX	80.	MedianX	78.	MedianX	81.
$Q_3 X$	97.	$Q_3 X$	91.	$Q_3 X$	88.
MaxX	101.	MaxX	100.	MaxX	96.
$SSX := \Sigma(x-\bar{x})^2$	8116.36	$SSX := \Sigma(x-\bar{x})^2$	6291.12	$SSX := \Sigma(x-\bar{x})^2$	7933.22

20. State the IQR of each of the lists of data as a range and as a value

- a. IQR for first hour as an interval \_\_\_\_\_ to \_\_\_\_\_ IQR as a value \_\_\_\_\_
- b. IQR for third hour as an interval \_\_\_\_\_ to \_\_\_\_\_ IQR as a value \_\_\_\_\_
- c. IQR for combined 1<sup>st</sup> and 3<sup>rd</sup> hour as an interval \_\_\_\_\_ to \_\_\_\_\_ IQR as a value \_\_\_\_\_

21. Use lists from above to answer the questions below

	Q1 -3IQR (note use IQR as a value)	Q1 -1.5IQR (note use IQR as a value)	Q3 +1.5IQR (note use IQR as a value)	Q3 +3IQR (note use IQR as a value)
First hour				
Third Hour				
Combined 1 <sup>st</sup> and 3 <sup>rd</sup> hour				

22. Use lists from above to answer the questions below

	Mean - SD _____ to Mean +SD _____	Mean - 2SD _____ to Mean +2SD _____	Mean - 3SD _____ to Mean +3SD _____
First hour	TO	TO	TO
Third Hour	TO	TO	TO
Combined 1 <sup>st</sup> and 3 <sup>rd</sup> hour	TO	TO	TO

**FAILURE TO COMPLETE RELATED TABLES WILL RESULT IN 30% REDUCTION IN GRADE**

1. Calculate related means

Class	Frequency of Student	Number of AP/IB classes	Give meaningful title	Grades	Frequency of Grade	Give meaningful title	Give meaningful title
Freshman	85	4		90-100	15		
Sophomores	115	5		80-89	25		
Juniors	190	5		70-79	8		
Seniors	110	3		60-69	2		

Number of AP/IB classes Mean State as a fraction \_\_\_\_\_ Round to nearest tenth \_\_\_\_\_

Grades Mean State as fraction \_\_\_\_\_ Round to nearest tenth \_\_\_\_\_

2. Calculate related Variance and Standard Deviation (data is same as above, no need to recalculate mean)

Class	Frequency of Student	Number of AP/IB classes	Give meaningful title	Grades	Frequency of Grade	Give meaningful title
Freshman	85	4		90-100	15	
Sophomores	115	5		80-89	25	
Juniors	190	5		70-79	8	
Seniors	110	3		60-69	2	

TOP of variance fraction of the number of AP/IB courses taken = \_\_\_\_\_

SAMPLE number of AP/IB classes Variance State as a fraction \_\_\_\_\_ Round to nearest tenth \_\_\_\_\_

SAMPLE number of AP/IB classes SD State as a fraction \_\_\_\_\_ Round to nearest tenth \_\_\_\_\_

Top of variance of Grades= \_\_\_\_\_

SAMPLE Grades Variance State as a fraction \_\_\_\_\_ Round to nearest tenth \_\_\_\_\_

SAMPLE Grades SD State as a fraction \_\_\_\_\_ Round to nearest tenth \_\_\_\_\_

Use the following formulas to answer the following questions

$$a) s = \sqrt{\frac{\sum (x - \bar{x})^2}{n - 1}}$$

$$b) s = \sqrt{\frac{\sum f \cdot (x - \bar{x})^2}{n - 1}}$$

$$c) s = \sqrt{\frac{\sum f \cdot (m - \bar{x})^2}{n - 1}}$$

3. What do these formulas calculate?  
Be specific  
use the letters a, b, and c to help in your explanation

Use the following formulas to answer the following questions

$$a) \sigma^2 = \frac{\sum (x - \bar{x})^2}{n}$$

$$b) \sigma^2 = \frac{\sum f \cdot (x - \bar{x})^2}{n}$$

$$c) \sigma^2 = \frac{\sum f \cdot (m - \bar{x})^2}{n}$$

4. What do these formulas calculate?  
Be specific  
use the letters a, b, and c to help in your explanation

Use the following formulas to answer the following questions

$$a) \bar{x} = \frac{\sum f \cdot x}{\sum f} = \frac{\sum f \cdot x}{n}$$

$$b) \bar{x} = \frac{\sum f \cdot m}{\sum f} = \frac{\sum f \cdot m}{n}$$

$$c) \bar{x} = \frac{\sum x}{n}$$

5. What do these formulas calculate?  
Be specific  
use the letters a, b, and c to help in your explanation

Use the following formulas to answer the following questions

$$a) s^2 = \frac{\sum (x - \bar{x})^2}{n-1}$$

$$b) s^2 = \frac{\sum f \cdot (x - \bar{x})^2}{n-1}$$

$$c) s^2 = \frac{\sum f \cdot (m - \bar{x})^2}{n-1}$$

6. What do these formulas calculate?  
Be specific  
use the letters a, b, and c to help in your explanation

Use the following formulas to answer the following questions

$$a) \sigma = \sqrt{\frac{\sum f \cdot (m - \bar{x})^2}{n}}$$

$$b) \sigma = \sqrt{\frac{\sum f \cdot (x - \bar{x})^2}{n}}$$

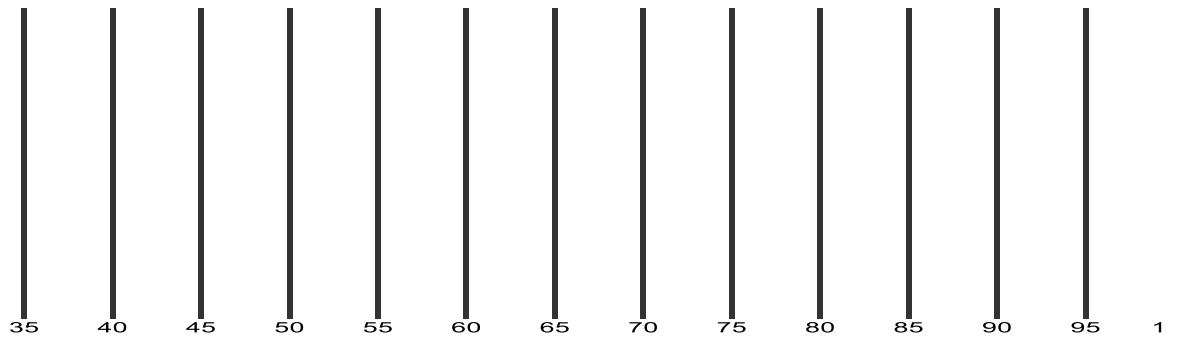
$$c) \sigma = \sqrt{\frac{\sum (x - \bar{x})^2}{n}}$$

7. What do these formulas calculate?  
Be specific  
use the letters a, b, and c to help in your explanation

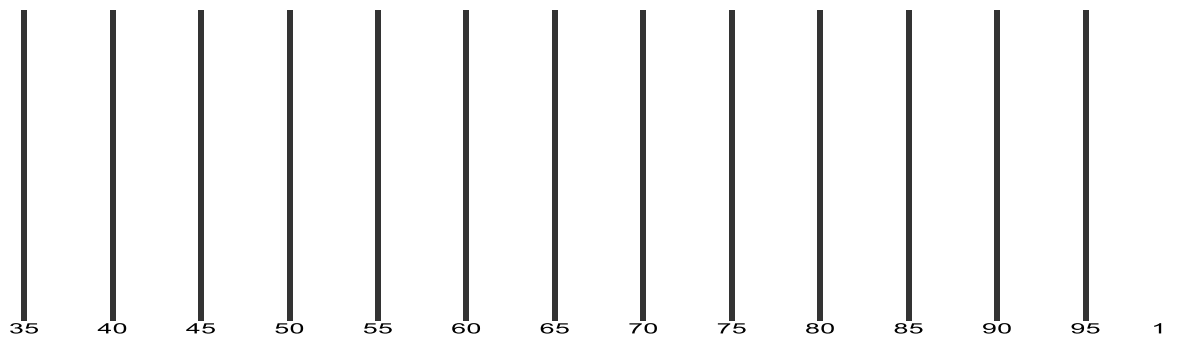
K	L trig	L	M geometry	E	F stats7
	=OneVar('combine...		=OneVar('con		=OneVar('
	One Variable Sta...		One Variab...		One Variable Sta...
$\bar{x}$	77.1875	$\bar{x}$	78.8696	$\bar{x}$	84.9964
$\Sigma x$	3705.	$\Sigma x$	3628.	$\Sigma x$	2124.91
$\Sigma x^2$	300399.	$\Sigma x^2$	294072.	$\Sigma x^2$	182868.
$s_x := s_{n-1}x$	17.5155	$s_x := s_{n-1}x$	13.2776	$s_x := s_{n-1}x$	9.70035
$\sigma_x := \sigma_n x$	17.3321	$\sigma_x := \sigma_n x$	13.1325	$\sigma_x := \sigma_n x$	9.50436
n	48.	n	46.	n	25.
MinX	40.	MinX	40.	MinX	57.69
$Q_1 X$	63.5	$Q_1 X$	73.	$Q_1 X$	77.82
MedianX	79.5	MedianX	81.	MedianX	85.89
$Q_3 X$	94.5	$Q_3 X$	88.	$Q_3 X$	92.47
MaxX	101.	MaxX	96.	MaxX	99.83
$SSX := \Sigma(x-\bar{x})^2$	14419.3	$SSX := \Sigma(x-\bar{x})^2$	7933.22	$SSX := \Sigma(x-\bar{x})^2$	2258.32

8. Sketch all three of the lists' box plots on the grids below Label the important parts of the plot numerically

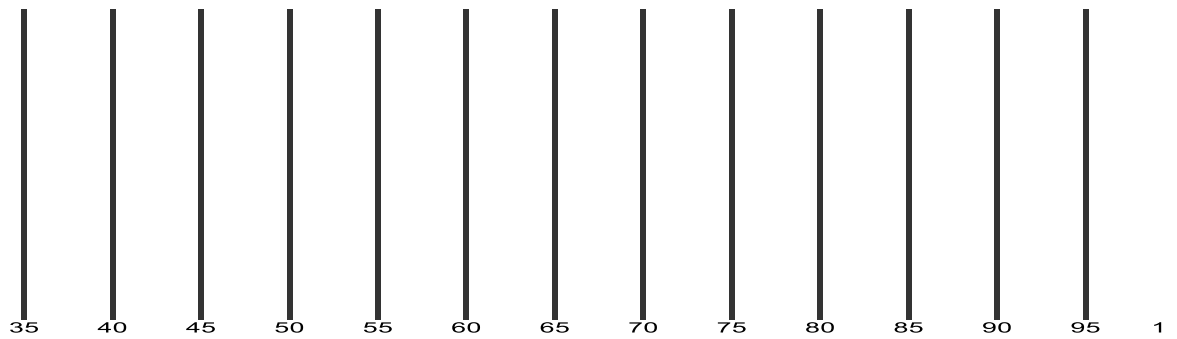
Trig



Geometry



Stats



## Round ALL ANSWERS ON THIS PAGE to nearest TENTH

K	L trig	M geometry	E	F stats7
	=OneVar('combine...	=OneVar('con...		=OneVar('con...
$\bar{x}$	77.1875	78.8696	$\bar{x}$	84.9964
$\Sigma x$	3705.	3628.	$\Sigma x$	2124.91
$\Sigma x^2$	300399.	294072.	$\Sigma x^2$	182868.
$s_x := s_{n-1}x$	17.5155	13.2776	$s_x := s_{n-1}x$	9.70035
$\sigma_x := \sigma_n x$	17.3321	13.1325	$\sigma_x := \sigma_n x$	9.50436
n	48.	46.	n	25.
MinX	40.	40.	MinX	57.69
$Q_1 X$	63.5	73.	$Q_1 X$	77.82
MedianX	79.5	81.	MedianX	85.89
$Q_3 X$	94.5	88.	$Q_3 X$	92.47
MaxX	101.	96.	MaxX	99.83
$SSX := \Sigma(x-\bar{x})^2$	14419.3	7933.22	$SSX := \Sigma(x-\bar{x})^2$	2258.32

9. State the IQR of each of the lists of data as a range and as a value

d. IQR for trig as an interval \_\_\_\_\_ to \_\_\_\_\_ IQR as a value \_\_\_\_\_

e. IQR for geometry as an interval \_\_\_\_\_ to \_\_\_\_\_ IQR as a value \_\_\_\_\_

f. IQR for stats as an interval \_\_\_\_\_ to \_\_\_\_\_ IQR as a value \_\_\_\_\_

10.

	Q1 -3IQR (note use IQR as a value)	Q1 -1.5IQR (note use IQR as a value)	Q3 +1.5IQR (note use IQR as a value)	Q3 +3IQR (note use IQR as a value)
Trig				
Geometry				
Stats and 5 <sup>th</sup> hour				

11. Use lists from above to answer the questions below

	Mean – SD _____ to Mean +SD _____	Mean – 2SD _____ to Mean +2SD _____	Mean – 3SD _____ to Mean +3SD _____
Trig	TO	TO	TO
Geometry	TO	TO	TO
Stats and 5 <sup>th</sup> hour	TO	TO	TO

