

Name Key

Date _____

	Bacon	Sausage	Ham
Waffles	48	13	31
Pancakes	11	12	18

1. In the table below, record the joint and marginal relative frequencies. Round your answer to the nearest hundredth.

	Bacon	Sausage	Ham	Totals
Waffles	.36	.10	.23	.69
Pancakes	.08	.09	.14	.31
Totals	.44	.19	.37	1

2. Is it more likely that you had ham given that you had waffles or given that you had pancakes?

Waffles: $\frac{.23}{.69} = .33$

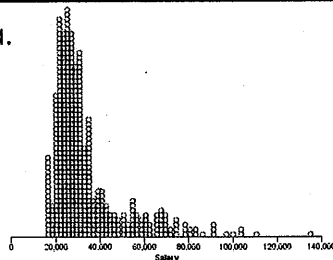
Pancakes made ham more likely:

Pancakes: $\frac{.14}{.31} = .45$

3. If you surveyed 350 people, how many of them would you expect to have been waffle-eaters who had bacon?

$350(.36) = 126$ people

4. Give the CUSS of the data.



Center: 35,000 or so
 Unusual features: Outlier @ 135,000
 several small gaps
 Shape: Skew right.
 Spread: Seems wide

- 5.

X	1	2	5	5	7	7	9	10	11
Y	4	6	7	9	9	12	15	18	19

- a. Find the line of best fit for the following set of data: $y = 1.49x + 1.57$

- b. For what x value would you expect to have a y-value of 38? $38 = 1.49x + 1.57$
 $36.43 = 1.49x$ $x = 24.45$

- c. For what y-value would you expect to have an x-value of 14?
 $f(14) = 22.42 / 22.43$

For questions 6-9, use the list of test scores given here:

92, 61, 82, 90, 87, 78, 76, 90, 85, 89.

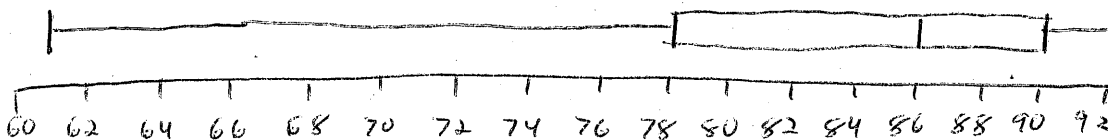
6. What are the mean, median, and mode of the data?

Mean = 83 Median = 86 Mode = 90

7. Find the Mean Absolute Deviation of the scores.

1) $\bar{x} = 83$
 2) 2, 7, 5, 1, 2, 4, 6, 7, 7, 9
 4) $\frac{70}{10} = 7$

8. Create a box-and whisker plot for the data.



9. Are there any outliers? Show all your calculations.

$IQR = 90 - 78 = 12$ $78 - 1.5(12) = 60$ $90 + 1.5(12) = 108$
 $Q_1 = 78$ $Q_3 = 90$ No outliers

10. The following table shows a person study hours versus their test scores.

Hours studied (x)	2	5	1	0	4	2	3
Grade on test (y)	77	92	70	63	90	75	84

Would the data be best modelled as a linear, quadratic, or exponential function? Find the equations for each, then justify your answer.

L: $y = 6.09x + 63.93$ $r^2 = .98$ $r = .9890$ Quadratic is best because
 Q: $y = -0.38x^2 + 8.00x + 62.46$ $r^2 = .99$ $r = .9936$ the r^2 is closest to 1,
 E: $y = 64.57(1.08)^x$ $r^2 = .97$ $r = .9839$

Additional Topics for Review:

- Correlation vs. Causation
- Analyzing results (tell me what your data actually means)