

**Instructions:** Show all work to receive full credit. You should note any formulas used or calculator functions used, their inputs and outputs. I cannot grade work if I don't know where an answer came from. Be sure complete all parts of each questions, including requests for interpretation and explanations. Be as thorough as possible.

1. Below is a stem-and-leaf plot of measurements of final sale prices for a particular store, on a particular day.

Final Sale Price (to nearest dollar)

3	4 4 5
4	
5	2
6	1 1 2 5 5 5 5 5
7	2 3 6 7 9
8	9 9
9	7
10	0 4 8
11	
12	
13	
14	
15	0

Key: 8|0 = 80

- a. Find the five-number summary of the data.

$$\begin{aligned} \min &= 34 \\ Q_1 &= 61.5 & \text{Max} &= 150 \\ \text{Med} &= 68.5 \\ Q_3 &= 89 \end{aligned}$$

- b. Determine if there are any outliers in the data set. What are they?

$$\begin{aligned} \text{IQR} &= 89 - 61.5 = 27.5 \\ 1.5 \text{IQR} &= 41.25 \end{aligned}$$

Yes, 150 is an outlier

$$61.5 - 41.25 = 20.25 \quad \text{None on lower end}$$

$$89 + 41.25 = 130.25$$

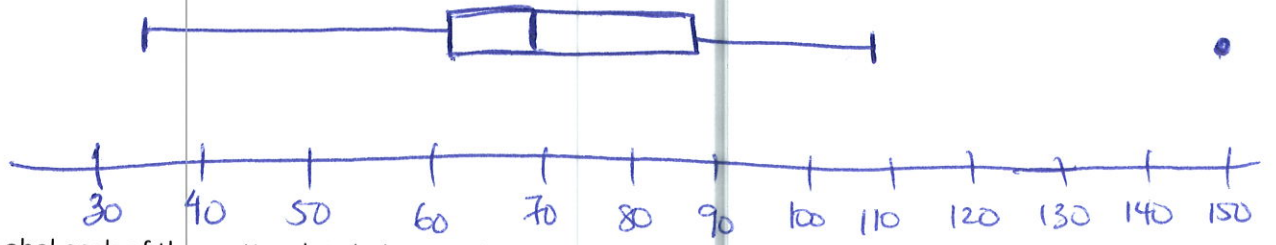
150 on high end is

- c. What percentile does the measurement of 97 represent?

$$\frac{20}{24} = .833$$

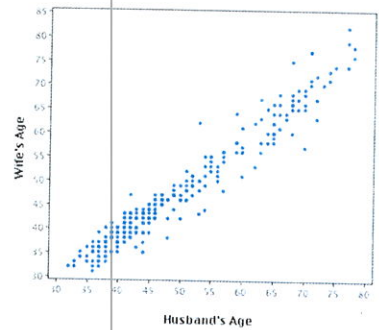
83<sup>rd</sup> percentile

d. Use this information to create a boxplot of the data. Be sure to draw your graph to scale.



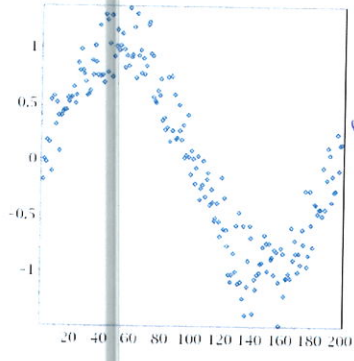
2. Label each of the scatterplots below as a) linear or non-linear, b) positive or negative or (near) zero linear correlation, c) strong, moderate or weak linear correlation.

*positive  
linear  
strong*



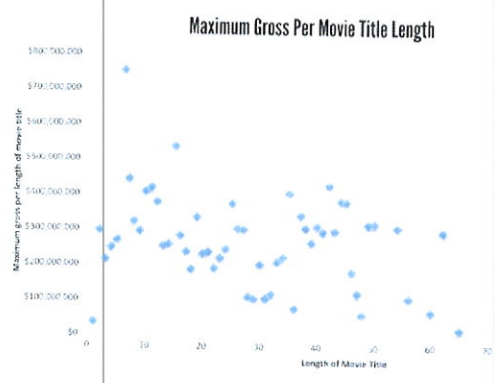
i.

*nonlinear  
(negative or  
near zero)  
weak*



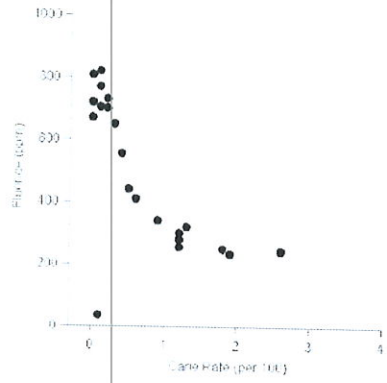
iv.

*linear  
moderate  
negative*



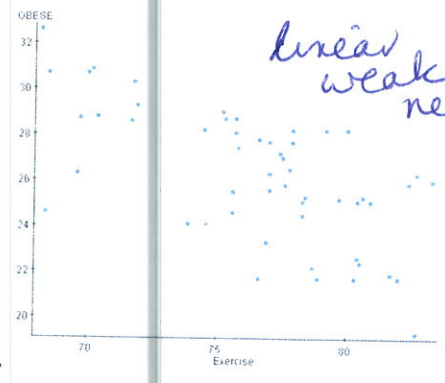
ii.

*nonlinear  
negative  
moderate*



iii.

*linear  
weak  
negative*



v.