Unit 3 Review
Control

1. - not "a" because 14,000 much lower than any other number + would make the mean decrease
- not "b" because it would increase the range
- not "c" because the IQR represents the middle 50% of the data and 14,000 isn't part of that
- Must be "d"! Standard deviation is a measure of how spread out the numbers are. Since 14,000 is so low, there would be a huge gap on "spread" between 14,000 and 106,000, which is the next smallest number.

2. a. False because 16 women prefer dance (32% of 50 = 16) and 2 men prefer dance, so 14 more women prefer it to men.

b. False, 6 women prefer sports (12% of 50) and 10 men prefer sports, so actually 4 more men prefer sports over women.

c. False, dance is the most preferred.

d. True, 32% of 50 = 16.

3. key word in this is predicted, meaning average.
- First, calculate the average (add up + divide by 10).
- Next, look and see how many out of 10 are more than 10kg above the average.
- only 3/10 are greater, which is 30%. [C]

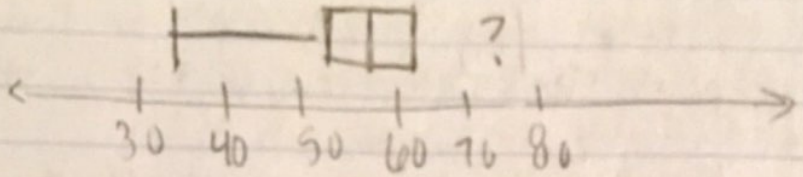
4. [B] - weak positive correlation - the values increase, but are spread out.

5. IQR = $Q_3 - Q_1$
Step 1: organize data in order (done)
Step 2: Find midpoint of each set (men's + women's of data - divide in half.
Step 3: Find the median of the lower + upper ha (excluding the midpoint if odd # of values)
Step 4 - Subtract $Q_3 - Q_1$ to find IQR.

men's Q_3 = 8954
men's Q_1 = 8743
} 8954 - 8743 = 211

women's Q_3 = 7934
women's Q_1 = 7755
} 7934 - 7755 = 179

[A] - the difference is 32

6. 

[A] - 64 mph because there are 4.5 units between the mean (59.5) + Q_1 + if you add 4.5 to 59.5 you get 64.

7. [C] The range for both data sets is 50. Data set 2 has higher values, so will have a higher mean.

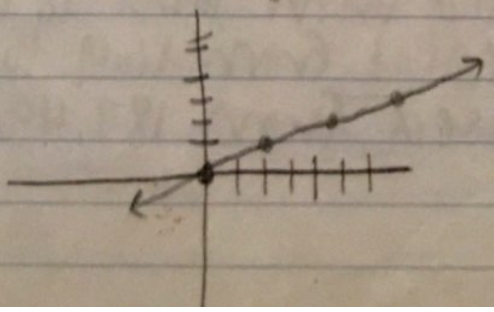
8. [A] - the line cuts through more data points than any of the other graphs.

9. [A] -

10. [C] - this value is the only one that provides a linear model w/ 28 inches as the height.

11. [D] - the slope $C = 45t + 35$ represents the hourly charge for the repair.
- the y-intercept (35) represents the initial fee.

12. [D] - if you graph $y = \frac{1}{2}x$ (no y-int = 0)



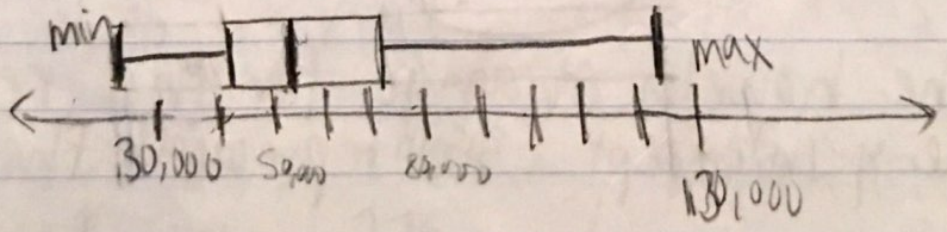
this line would best fit w/ the data in [d]

13. [C] First, look at the y-intercept on the graph.
- Notice it must be between 15 + 20. You can automatically cross out B + D.
- Next, look and see if the values go up or down from the y-intercept. They decrease, so it must be C because it has a negative slope telling you the data values are decreasing.

14. [A] - First, figure out if there is a correlation - does watching tv impact GPA? YES! So, there is a 'negative' correlation, the more tv watch the lower the GPA. Therefore, it is the cause.

15. → 50 total adults
a. True, because 4% of 50 is 2 men
b. True, because 10 men and 6 women prefer sports for a difference of 4
c. True, 36% of men and women prefer dance. The other categories are 32% each.
d. False, 32% of 50 is 16, not 18.

16. a. Median is $54,000
b. $Q_1 = 42,000$ $Q_3 = 72,000$
c.



17. a. True, it decreased from 288.13 to 264
b. False, it increased from 625 to 660
c. False, it increased from 169 to 216.5
d. True, it increased from 187.45 to 189.44