Review pp. 93-96 #1-10 all

1. \( \text{ave} = 50, \text{SD} = 10 \)
   \( \begin{align*}
   \text{a)} & \quad \frac{79.2}{1.25} = 63.36 \\
   \text{b)} & \quad \text{range} = 2 \times 1.25 \times 10 = 50 \pm 25 \to 50 \pm 2.5 \\
   & \quad \text{scores in that range:} 50, 47.5, 45, 42.5, 39.5, 34, 49, 51.5, 54, 57.5, 61 \\
   & \quad \text{other scores:} 44, 47, 49, 52, 53, 54, 52, 50, 50
   \end{align*} \)

2. Something wrong, almost all scores should be within \( \pm 2 \text{ SD} \); segment scores, they should be in the interval \((-2, 2)\) or \((-3, 3)\). Scores in standard units of \(-1\) and \(-2\) are silly.

3. \( \begin{align*}
   \text{a)} & \quad \text{mean} = 193 \text{ mm} \\
   \text{b)} & \quad \text{mean} = 194 \text{ mm}
   \end{align*} \)

4. \( \begin{align*}
   \text{a)} & \quad \text{mean:} \quad \text{ave} = 500 \quad \text{(below upper SD = 120)} \\
   \text{b)} & \quad \text{women:} \quad \text{ave} = 460, \text{SD} = 120
   \end{align*} \)

5. Exceeds \( \frac{66}{72} \) under the histogram approx. \( \frac{1}{2} \) between \(-1\) and \(-2\) under the normal curve.

6. \( \text{ave} = 169, \text{SD} = 9 \) highest score was 178.
   The highest score was less than one SD away from the ave, so no, it didn't follow the normal curve. (Normal curve would have had the highest 2-3 SD's away.)
Ch. 5 Review, cont.

7. Student who scored 750 was at the 47th percentile.
   a) to be 75th percentile?
   b) to be 75th percentile?

8. a) Add 7 to entries = add 7 to ave. True - line shift
   b) Add 7 to entries = add 7 to SD False - line shift doesn't change spread.
   c) Double entries = double ave. True - ave = \( \frac{a+b}{2} \)
   d) Double entries = double SD True
   e) Change entry signs = change ave. False
   f) """" = 11 SD signs True

9. a) False. Ex: 1, 2, 3, 9, 100 The further the outlier, the more distance between \( \bar{X} \) and median.
   b) False. Half is below median. Ex: 1, 2, 3, 9, 100 are in the sample.
   c) False. Income & Educational histograms won't no matter how many.
   d) False. If both lists followed the normal curve, the percentages would be similar but not exact. These lists may not follow the normal.

10. If the ave. is $35,000, SD = $23,000, and there are values out to $150,000 (and above), there is a long right-hand tail. Which means that the ave. is bigger than the median.

Then from the ave. and above is less than 50%, and we choose 40% from the given options.