FALL 2024 TEST CORRECTION POLICY FOR AP STATS

What: Test corrections allow you to earn back up to one half of the points you missed on every **Test**.
When: Handed in within 1 week from the day your test was returned to you.
Why: To encourage students to learn concepts they did not understand in the assessment.
How: You must **Prove To Me Without A Doubt** that you understand how to do the problem correctly.

IMPORTANT: **I WILL "NOT" GRADE** any test corrections that are:

- Messy or handwriting is difficult to read. Tips: skip lines, white space, type it.
- Disorganized and difficult to follow work. Tip: paper is cheap, and I have lots if you need it.
- I'm not a cryptologist.

Here are the guidelines for EVERY problem you want to earn back half of the points you lost (i.e. you do NOT need to correct every problem you missed):

1) **FORMATTING:**
   - **One question per page (including MC).**
   - Please no spiral paper.
   - Your solution should be easy to follow!!!! Show your work in steps going down.
   - Use white space, skip lines, write in bullets.
   - Your handwriting must be easy to read. Or type it.

2) **SOLUTION:**
   - **Label each question and indicate the number of points lost for each question** (i.e.: I lost 5 points on question MC#4 or FRQ#3a)
   - Work out the problem showing step-by-step detail (with accompanying written explanation), arriving at the correct solution.
   - You must describe the problem provide all data, statistics, graphs given in the problem so I do not have to go back to the problem to check your work.
   - Steps need to go down in a logical order along with words describing what you are doing in each step.
   - Your solution must be correct in every way. (I.e. every calculations clearly labeled, clearly labeled normal graph, z-scores, answer in context, etc.)
   - **No credit is given for an incorrect solution**. If you are not sure of the solution, set up time with Ms. Groves to review the problem.

3) **Test corrections are due one week from** the day your tests are passed backed to you. Put your test correction stapled to the front of your test and put in the class box. Do not wait until the next class, as your work will not be accepted.

Remember this is an opportunity for you to improve your grade and
Clearly demonstrate to me your complete understanding of the concepts you missed.
Ms. Groves (oct2023)

Expectations for Free Response (FRQ)

For Free Response, completely redo the problem showing **every step <u>with explanations</u>** to correctly arrive at the answer(s) required. This means I am expecting **more detail** to prove to me you know how to answer this question and deserve to earn half your points back. Expected details to include:

- For each problem, provide all together (1) Label question # and indicate the number of points lost; (2) Provide ALL information needed to complete this problem, and (3) solution. Complete each question on a new page.
- **Providing all details** that you need to do this problem **(so I do not have to go back and read the question)** is especially important if you only do a part of a FRQ. You will not be required to complete the entire problem but **must treat each sub-question as a stand-alone question**.
- From the question, include all of the information needed to correctly do this problem (i.e. statistics, sketch graphs, description of the problem, etc.) I should be able to understand this test correction without having to go back and read the question.
- Show work clearly in steps. **Do NOT write in paragraph form.** If necessary, use bullets to show detailed steps.
- Use appropriate notations to describe **every** number and **label** every calculation.
- When in doubt, provide a clearly labeled normal graph. Also z-scores and describe the distribution i.e. $N(\mu,\sigma)$.
- Graphs are sketches but must include scale and labels; and provide a visually clear representation of the data.

Expectations for Multiple Choice (MC)

For each multiple choice, provide all together (1) Label question # and indicate the number of points lost; (2) reflection; and (3) solution. Clearly skip lines between questions.

For multiple choice questions, you are **explaining the correct choice in complete detail** (and your **reflection is discussing why you made the wrong choice**).

You can put MC into 3 groups and here is the expected work:

1) **Free Response** (i.e. what percent of women weigh between 120 and 150 pounds?)
   - For these, complete by following the FRQ steps outlined above.
2) **Vocabulary**
   - For vocabulary questions, you must research the definition(s) and cite your source (i.e. TPS book or Internet).
   - TPS Book: cite the TPS book location(s) you used with the page and paragraph locations.
   - INTERNET: cite the web address. Print the page and tape/glue the relevant portion with the question you are correcting.
   - Then clearly explain the correct definition(s) in the context of the problem.
3) **Interpreting data or graphs**
   - From the question, include all of the information needed to correctly do this problem (i.e. statistics, sketch graphs, description of the problem, etc.**). I should be able to understand this test correction without having to go back and read the question.**
   - For graphs, provide a sketch with scale and labels that provide a visually clear representation of the data for you to explain the correct choice.
   - For tables, provide a sketch of the table with the information that is needed to explain the correct choice.
   - Then work out the problem showing step-by-step detail (with accompanying written explanation), arriving at the correct solution. Include in your response, a detailed explanation on how to use the graph or table to answer this question.

Reason why you will not earn ½ points back:

The goal is to demonstrate that you completely understand the concepts.

Test corrections allow you to earn back up to one half of the points you missed on every test. Here is a list of reason you will not earn your points back:

- **W=Writing:** I cannot read your handwriting. I recommend you type future test corrections.
- **F=Formatting:** I cannot follow your work. Show your work in steps going down. Use white space, skip lines, and write in bullets. Paper is cheap.
- **M=Missing information from the original problem:** For me to review the problem, you must provide all information from the problem, so I do not have to go back to the problem to check your work.
    - You must describe what the problem is asking you to do.
    - As well as provide ALL statistics and graphs given in the problem needed to answer the question completely.
- **U=Unclear:** Your response is unclear. You need to work out the problem by showing step-by-step details (with an accompanying written explanation). I suggest you write in 2 columns. Column 1 has the steps and column 2 has the explanation or vice versa.
- **I=Incomplete:** You are missing steps. You must show all steps as if this is a free response. For vocabulary, you must provide a reference to the textbook to demonstrate you understand the vocabulary.
- **N=No credit given:** You must have correct solutions/answers.

If you have any questions, email me, or see me in Flex,

Ms. Groves

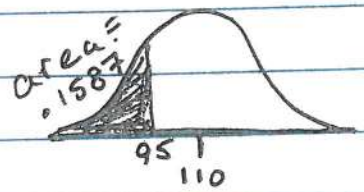
MC-FREERESPONSE EXAMPLE

OPTIONAL

MC #10 I LOST 5 POINTS [BECAUSE I DID NOT KNOW HOW TO USE THE NORMAL CDF ON THE CALC. AND I DID NOT CALCULATE THE Z SCORE CORRECTLY.]

CORRECT SOLUTION [complete like on actual FRQ]

* THE QUESTION IS LOOKING AT BIRTHWEIGHTS AT A LOCAL HOSPITAL
* THE DISTRIBUTION WAS STATED NORMAL WITH $\mu = 110$oz $\sigma = 15$oz
* THE 1ST STEP IS TO SKETCH THE NORMAL GRAPH AND CALC. Z SCORE



$Z = \frac{95-110}{15}$ $\boxed{Z = -1}$

* THE I NEED TO CALC. THE AREA

$P(Z < -1) = \boxed{.1587}$ USING NORMAL CDF (-E99, -1, 0, 1)

* ANSWER IN CONTEXT:

ABOUT 16% OF INFANT BIRTH WEIGHT IS UNDER 95oz.

THE CORRECT ANSWER IS (A) 0.159.

NOTE: Since this was a MC, I could use my calc for this work in the future.

ex] normcdf(-1E99, 95, 110, 15) = 0.159

MC - VOCABULARY EXAMPLE

MC #4 I LOST 5 POINTS.

CORRECT SOLUTION:

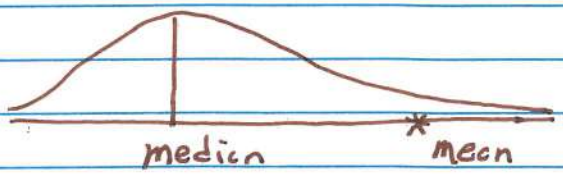
This Question was asking to understand mean and median for a skewed distribution.

To answer this Question refer to TPS4E, pg 54, section "COMPARING MEAN AND MEDIAN"

It stated "in a skewed distribution, the mean is usually farther out in the long tail than is the median"

FOR ME A GRAPH HELPS SHOW THIS Relationship.

Given in the Question → FOR A SKEWED RIGHT DIST →



What I see → (the mean is closer to the outlier

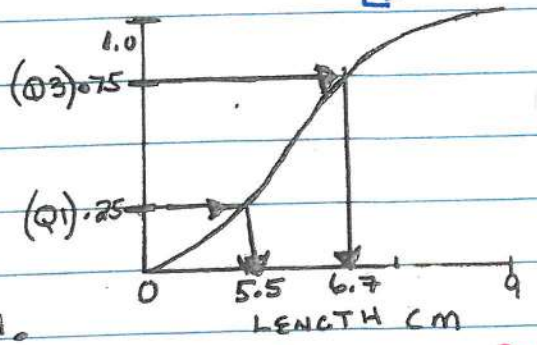
* The correct answer is (C) The mean must be Grecter than the median.

MC - INTERPRETING DATA OR GRAPHS

MC #3 I LOST 5 POINTS (BECAUSE I READ THE QUESTION TOO QUICKLY AND RUSHED THROUGH FINDING Q1 AND Q2. I ROUNDING THE QUARTILES AND DID NOT FIND IQR.) ← optional

CORRECT SOLUTION

This Graph was Given in the problem.



* TO FIND THE IQR, I NEED TO USE THE CUM. FREQUENCY GRAPH. SEE THE ARROWS ON THIS GRAPH.
- Q1 IS AT 25% W/ LENGTH ≈ 5.5 CM (see arrows)
- Q3 IS AT 75% W/ LENGTH ≈ 6.7 CM (see arrows)
- NOW FIND IQR = Q3 - Q1 =
  = 6.7 - 5.5 **IQR ≈ 1.2 CM**

THE CORRECT ANSWER IS (D) 1.2 centimeters

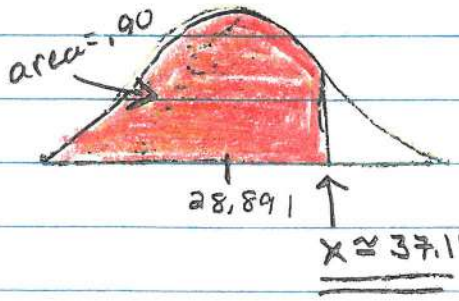
FRQ - FREE RESPONSE EXAMPLE

FRQ 1B I LOST 4 POINTS [BECAUSE] (OPTIONAL)
I DID NOT UNDERSTAND Percentiles
COMES FROM THE LEFT AND GO TO
THE RIGHT. I ALSO MISUNDERSTOOD
HOW TO WRITE THE ANSWER IN CONTEX]

CORRECT SOLUTION FIND THE 90TH percentile
FOR WOMEN WHO PARTICIPATED IN A
5 MILE ROAD RACE

① THE DISTRIBUTION ⟶ $N(28.891, 6.481)$ (Provide From 1A)

② GRAPH



③ FIND Z FOR 90%tile
USE INVNORM(.90, 0, 1)
$Z = 1.28$

④ FIND X USING ZSCORE
FORMULA:

$$Z = 1.28 = \frac{X - 28.891}{6.481}$$

$X = 1.28(6.481) + 28.8$

$X \approx 37.187$

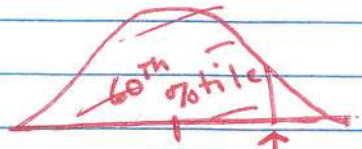
⑤ THE 90TH PERCENTILE
FOR WOMEN WHO
PARTICIPATED IN A
5 MILE ROAD RACE
IS ABOUT 37 MINUTES.

Sample Free Response

#4 I LOST 4 POINTS.

- THIS PROBLEM IS ABOUT A POST OFFICE WEIGHING OUT GOING FIRST CLASS MAIL.
- X = AVERAGE WEIGHT OF A 1ST CLASS letter
- TOLD IT WAS APPROX NORMAL W/ mean = 0.69 SD = 0.16
- WE ARE ASKED TO FIND THE 60TH %tile OF FIRST CLASS LETTERS

(1) DRAW A NORMAL GRAPH To DESCRIBE this problem Labeling the %tile, mean, x and Z



0.69 Mean x = 0.73 Z = 1.645

(2) USE Z-Formula $Z = \frac{x - \text{mean}}{SD}$

(3) FIND Z USING INV NORM (.6, 0, 1) → Z = 1.645

(4) FILL IN Z, mean & SD $X \sim N(0.69, 0.16)$ → $Z = 1.645 = \frac{X - 0.69}{0.16}$

(5) SOLVE FOR X AND ADD TO GRAPH → $x = 1.645(0.16) + 0.69$

$\boxed{x = 0.73}$

(6) ANSWER IN CONTEXT:

THE 60th percentile for weight of a 1ST class letter is about 0.73oz.