2019-20 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: **Must be handed in within 1 week (3 class periods)** following when the test was **returned**.

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

- COMPLETED WITH MESSY AND DIFFICULT TO READ HANDWRITING. TIP: SKIP LINES AND USE WHITE SPACE.
- DISORGANIZED AND DIFFICULT TO FOLLOW WORK. 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) ***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) –

2) **REFLECTION*: Identify in writing what your mistakes were.***
   - This may include a lack of understanding of the question, operational errors, faulty solving method, or something else. **"I was clueless" or any form of this is not an acceptable answer**. Your errors need to be explained.

3) **SOLUTION: *Work out the problem showing step-by-step detail (with accompanying written explanation), arriving at the correct solution.***
   - 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.

4) The **above steps must be completed all together** (not on separate pages). Your responses must be **completed in pencil** (or typed).

Summary

- Neat, clear work stapled to the front of the test.
- Work completed in pencil (or typed) with space between EVERY problem.
- Explanation of what the errors were.
- A detailed solution leading to the correct answer.

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 (sep2019)

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) reflection; and (3) solution. Clearly skip lines between questions.
- Show work clearly in steps. **Do NOT write in paragraph form.** If necessary, use bullets to show detailed steps.
- 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.
- **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**.
- 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 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.

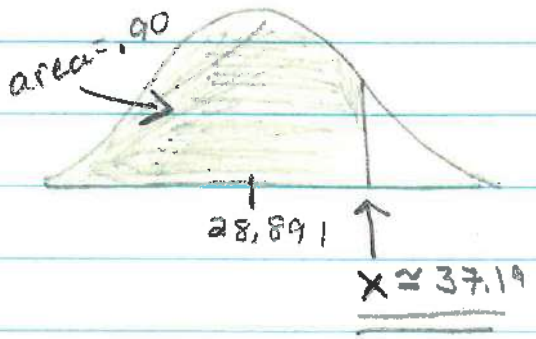
FRQ - FREE RESPONSE EXAMPLE

FRQ 1B I LOST 4 POINTS BECAUSE I DID NOT UNDERSTAND Percentiles COMES FROM THE LEFT AND GO TO THE RIGHT. I ALSO MISUNDERSTOOD HOW TO WRITE THE ANSWER IN CONTEXT.

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

① THE DISTRIBUTION ⟶ $N(28.891, 6.481)$

② GRAPH



③ FIND Z FOR 90%tile

USE INVNORM(.90, 0, 1)

$Z = 1.28$

④ FIND X USING ZSCORE FORMULA:

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

$X = 1.28(6.481) + 28.891$

$X \approx 37.187$

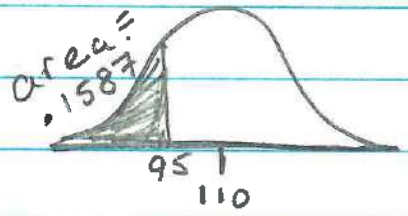
⑤ THE 90TH PERCENTILE FOR WOMEN WHO PARTICIPATED IN A 5 MILE ROAD RACE IS ABOUT 37 MINUTES.

MC-FREERESPONSE EXAMPLE

mc#10 I LOST 5 POINTS BECAUSE I DID NOT KNOW HOW TO USE THE NORMALCDF ON THE CALC. AND I DID NOT CALCULATE THE Z SCORE CORRECTLY.

CORRECT SOLUTION:

* 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



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

* THE I NEED TO CALC. THE AREA

$P(Z \leq -1) = \boxed{.1587}$ USING NORMALCDF (-E99, -1, 0, 1)

*. . ANSWER IN CONTEXT:

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

THE CORRECT ANSWER IS (A) 0.159.

MC - VOCABULARY EXAMPLE

MC #4 I LOST 5 POINTS BECAUSE I MISUNDERSTOOD HOW THE MEAN AND MEDIAN ARE RELATED TO A RIGHT SKEWED DISTRIBUTION. I REVERSED THE MEAN + MEDIAN AND INCORRECTLY CHOSE (B)

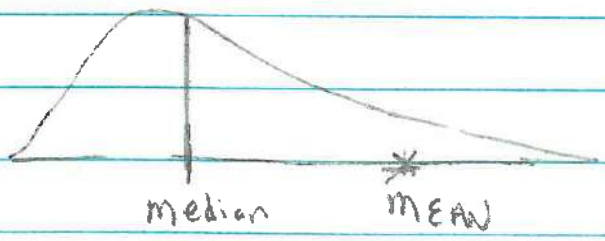
CORRECT SOLUTION:

TO ANSWER THIS QUESTION, REFER TO TPS4E, page 54, SECTION "COMPARING MEAN AND THE MEDIAN."

IT STATED "IN A SKEWED DISTRIBUTION, THE MEAN IS USUALLY FARTHER OUT IN THE LONG TAIL THAN IS THE MEDIAN."

A GRAPH HELPS SHOW THIS RELATIONSHIP

SKEWED RIGHT →



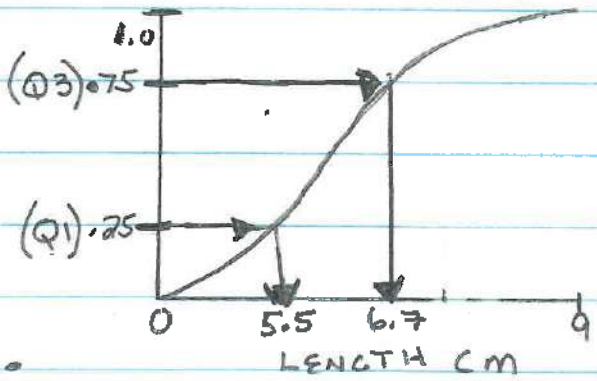
THE CORRECT ANSWER (C) THE MEAN MUST BE GREATER THAN THE MEDIAN.

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 quartile and did not find IQR. This is why I incorrectly answered (B)

Correct Solution

* To find the IQR, I need to use the Cum. Frequency Graph. See the arrows on this graph.



- Q1 is at 25% w/ length ~5.5cm
- Q3 is at 75% w/ length ~6.7cm
- Now find IQR = Q3 - Q1 =

  = 6.7 - 5.5 **IQR ≈ 1.2cm**

The correct answer is (D) 1.2 centimeters