

Errata for all Tests from March 5, 2022 Regional

Algebra 1 Individual:

Question #8 was disputed from D to E in Region 1 only. All other regions kept the original answer, D. The question asks for the least possible value of x that makes the expression $\sqrt{(6x)(5^3)}$ an integer, when simplified. Although the integer 30 is the least possible value amongst the choices listed, the value of $x = 0$ is a valid solution to the question and truly the least possible value of x that satisfies the requirements of the question. Therefore, the correct answer is indeed E and all regions should have switched the answer from D to E for this reason; yet, it appeared that no one successfully disputed the question in any other region for some reason. The question was modified prior to uploading the test and solutions file to the FAMAT test bank to stipulate that x must be a positive integer so that the original intended solution is now the correct one.

Question #20 was disputed from D to E in Regions 1 and 5 only but remained as D in Regions 3 and 4. The original solution is incorrect because it states that " $P = C - 1$ " when it should have been " $P = C + 1$." Using the latter correct equation leads to the solution $C = 3$ and $P = 4$; and so $PC = 12$ (and not 6). 12 is not listed among the original given answer choices which justified the switch to E. As a result of this, answer choice D was changed from 6 to 12 so that the correct answer is now D, as intended. The test and solutions documents were both modified to reflect this change prior to uploading them to the FAMAT test bank.

Geometry Individual:

Question #10 was disputed from E to C in Regions 1 and 5 but remained E in regions 3 and 4. This is because the question wording fails to stipulate that Sam is not collinear with the other four given points that are all specified as being collinear. Sam being specified as non-collinear is necessary in order to form a triangle as intended in the solution. The question wording was modified so as to stipulate that Sam is not collinear with the other four given points (that are all indicated as being collinear) in order to agree with the original intended solution. This was done prior to uploading the test and solutions files to the FAMAT test bank.

Question #28 was disputed from A to A or E in Region 1 only. All other regions kept the answer as A only. It is not clear why the answer was modified in Region 1 only, especially given that only one relatively low-scoring student chose E in the entire region and only four students in the entire state chose E. If anyone can provide an explanation as to why this question was successfully disputed in Region 1 only, please send it to famattests@gmail.com. Thank you.

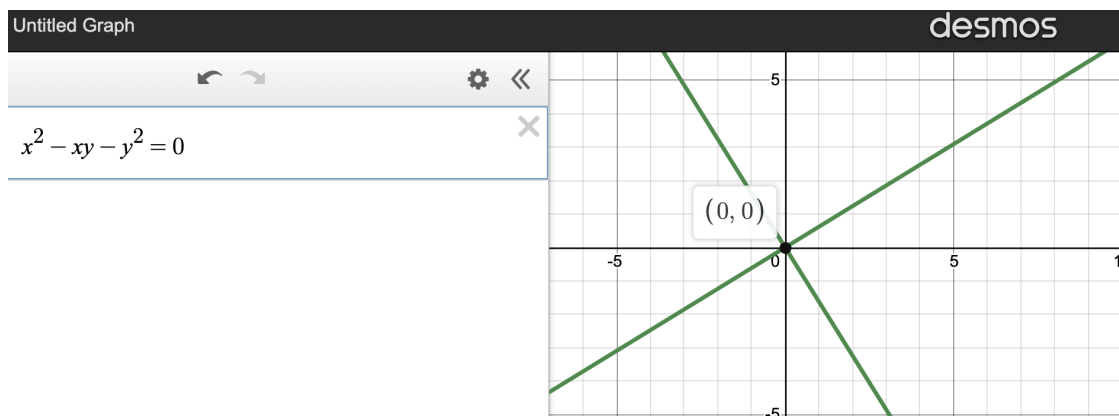
Precalculus Individual:

Question #14 was thrown out in Region 4 only while all other regions kept the original answer of B. The reason for the successful dispute in Region 4 only is not apparent and since the test was written in LaTeX and only PDFs were submitted, no changes were made to either the test or the solutions documents prior to uploading them to the FAMAT test bank. If anyone can provide an explanation as to why this question was successfully disputed in Region 4 only, please send it to famattests@gmail.com. Thank you.

Question #23 was disputed from C to E in Regions 1, 4, and 5 but remained C in Region 3 only. The issue is that $\cos\left(\frac{\pi}{6}\right) \neq \frac{1}{2}$ as indicated in the solution, so the solution is flawed. Therefore, the correct answer is E. It is likely that no one even disputed the question in Region 3 since almost all students skipped the question and only one low-scoring student chose each of C (the intended answer) or E (the correct answer).

Question #27 was disputed from D to E in Region 1, kept as D in Region 3, disputed from D to A or E in Region 4, and disputed from D to E in Region 5 with two unique interpretations granted for A as well. The reason for the successful disputes or unique interpretations is not immediately apparent and there are clear disagreements about what the correct answer is. It is also likely that no one disputed the question in Region 3 since nearly every student skipped the question anyway. No changes were made to either the test or the solutions prior to uploading them to the FAMAT test bank. Again, since the test was written in LaTeX and only PDFs were submitted, no changes can be made as well. If anyone can provide an explanation as to why this question was successfully disputed, please send it to famattests@gmail.com. Thank you.

Question #29 was disputed from A to B in Regions 1, 4, and 5 but left as A in Region 3. The reason for the successful dispute is because the equation in choice A actually results on two parallel lines and not two intersecting lines when graphed. However, the graph of the equation in choice B is clearly that of two lines that intersect at the origin (as shown in the Desmos graph below) and so it is not the graph of a rotated ellipse as indicated in the solution. Therefore, the correct answer is B.



Almost every student in Region 3 skipped the question and only a total of 7 low-scoring students chose either A or B which likely explains the lack of a dispute. Once again, since the test was written in LaTeX and only PDFs were submitted, no changes can be made to either the test or the solutions prior to uploading them to the FAMAT test bank. However, the correct answer to this question is indeed B.

Calculus Team:

Question #10 was thrown out in at least one region (Region 5) because the given function for $g(x)$ references the variable a instead of x . No change was made to the test prior to uploading it to the FAMAT test bank since the test was written in LaTeX and only PDF files were submitted by the test writer.

Calculus Individual:

The answer key was either changed or the question was thrown out in at least one region for the following 10 questions: #1, #3, #5, #9, #11, #15, #21, #22, #24, and #26. Questions #3 and #15 had clear answer formatting issues while questions #21 and #26 clearly has the same answer repeated in both choice A and choice B. The remaining questions have a myriad of different issues; so, if anyone wishes to provide an explanation as to why each of the non-mentioned four questions was successfully disputed, please send them to famattests@gmail.com. Thank you.

This test was so poorly written and edited primarily because it was written in a rush and submitted for editing at the very last minute and so it has so many flawed questions for so many varying reasons on it that it is probably not worth using it for future practice. Since the test was written in LaTeX and only PDFs of the files were submitted, no changes to either the test or the solutions documents were made prior to uploading them to the FAMAT test bank.

Statistics Individual:

Question #27 was disputed from B to B or E in Region 5 only and Question #28 was disputed from A to A or B in Region 5 only as well while all other regions kept the original intended answers of B and A, respectively. The successful dispute in Region 5 was based upon a valid alternate interpretation of the “distribution of winners and losers on the two games (collectively)” which is based upon using the marginal totals in the two tables provided rather than the intended set of four cells in each table when performing the $\chi^2 - GOF$ Test on the given data. Doing so utilizes 45 and 55 as the observed counts and 33 and 67 as the corresponding expected counts. This leads to a χ^2 test statistic of $\chi^2 = 6.5129$, a p-value of 0.0107, and df = 1 degree of freedom for a sum of 7.5236 which is not among the choices listed. This leads to choosing E for #27 and the opposite conclusion regarding the test in #28 because the p-value is no longer less than the 0.01 level of significance of the test; hence, choice B instead of A. The test was modified prior to uploading the files to the FAMAT test bank to include the intended table of observed and expected counts into question #27 in order to eliminate this ambiguity and alternate interpretation of the question so that both questions now work out as intended.

Question #30 was erroneously disputed from B to E in Region 4 only while all other regions kept the original answer of B. While the original wording of the question was not perfect, the sampling methodology described is still clearly that of a stratified random sample and nothing else. Therefore, it is not clear exactly how and why this question was changed from B to E in Region 4 only, especially given that only 6 students in the region chose E and the highest score amongst them was only a 65. The wording of the question was modified prior to uploading the files to the FAMAT test bank to make it that much clearer that a stratified random sample is being described so as to eliminate any issues when practicing the test in the future. If anyone can provide an explanation as to why this question was successfully disputed in Region 4 only, please send it to famattests@gmail.com. Thank you.

Thank you,
VP MRG