MAT 121 Writing Project #1 Spring, 2020 Name_____
55 Points
Early Bird (5 points Bonus): Delivered or postmarked by Friday, January 31st. Otherwise, just bring your project to Test 1 with you to the testing center, clasped by a paper clip, so they can scan it with the feeder.

FORMATTING: This is semi-formal writing, here. That means show some professionalism. You don't have to type it out, but you do need to be very clear. **Staple this page, with your name on it, as a cover sheet for your project. Do not staple your project to your test.**

If you want to know what I'm looking for, check out the following links:

Writing Project #1, Spring, 2019

Writing Project #1, Spring, 2019 Solutions (for the Grader) Some extra work is included. And things are a little more cramped than I want to see from the student, because my solutions are likely to be printed multiple times by multiple people. Also, I squeeze in some extra ways of working the problems, sometimes. So my work is a little more cramped than I want yours to be.

1. Write on only one side of each page. I will not award (or deduct) points for anything on the backs of pages.
2. Plain, white, 8 ½ x 11-inch paper only. No Notebook Paper. 8 ½ x 11- inch paper. No rulings.
3. Clasp your project with a paper clip. No staple, please. The Testing Center will be scanning it, so please don't make them remove a staple. Thanks. I'll punch a staple in it at my end. Please leave me room to do so.
4. Leave margins. "MAT 121" in big letters in top left corner of every page, at bare minimum.. You SHOULD leave lots of space around your work, in general.
5. Write DARK. I don't mind if you use pen. Just put a line through mistakes. Pencil's good, but make sure you're getting it DARK. Soft lead helps with that. The same goes for tests.
6. Leave ROOM between problems and between steps on your work. I have bad eyes, so being stingy with space and paper is a mistake on any written work you submit. **Don't do work in 2 columns! Don't be shy about using paper.**
7. **Early Birds:** Do Not Send Me GIFs or JPEGs of your work. If you can't make a PDF, then don't bother submitting it electronically. I can't process your image very efficiently. If you can get it in the mail by the Early-Bird Deadline, you may mail it to:

Harry S. Mills, PhD
EDBH 134K
Aims Community College
5401 WEST 20TH STREET
GREELEY, CO 80634

#s 1 – 3 Find all real or non-real solutions of the following quadratic equations using the quadratic formula. Be sure to *compute the discriminant, first, and separately*. I'm looking for that on tests, as well, *whenever* you face a quadratic expression. It modularizes the work, and it tells you what you're getting into.

1. (5 pts) $x^2 - 7x - 18 = 0$
2. (5 pts) $3.62x^2 - 9.71x - 15.68 = 0$ (Round your final answer to 4 decimal places.)

BONUS: (5 pts) Give an *exact* answer for #2, in simplified radical form, and NO DECIMALS.

3. (5 pts) $49x^2 - 28x + 7 = 0$ (Give an exact answer, in simplified radical form.
4. (5 pts) $a\,x^2 - 5r\,x - 6z = 0$ (Solve for x. Your answers will have letters in them. That's OK!)

#s 5, 6 Solve the following by factoring. You may use the "sledgehammer," if you wish, but write the polynomial in factored form, after you find the solutions, to show you understand the connection between factors and solutions, frontwards and backwards! Give answers as integers or fractions, in lowest terms.

5. (5 pts) $x^2 - 5x - 24 = 0$
6. (5 pts) $14x^2 + 85x - 150 = 0$

#s 7 – 10 Solve the following by completing the square. Do not use decimals; rather, use *fractions*, as needed, to complete the square. No 2.5^2 for #7. Use $\left(\frac{5}{2}\right)^2$. For full credit, final answers in simplified radical form.

7. (5 pts) $x^2 - 5x - 24 = 0$
8. (5 pts) $x^2 - 8x - 17 = 0$
9. (5 pts) $3x^2 + 2x + 5 = 0$
10. (5 pts) $3x^2 - 4x - 1 = 0$
11. (5 pts) Type at least 3 paragraphs discussing the pro's and con's of each method. I'm not expecting a PhD thesis, here, but I am expecting some good writing. If your answer is all one big, long paragraph, you're doing it wrong, and I will deduct for a wall of words, that isn't broken into nice, tight paragraphs that express complete thoughts.