

These are old Intermediate Algebra questions that I want you to work out on separate paper and upload to the dropbox on D2L. The main thing I'm looking for, here, is **formatting, clear writing, good margins all the way around the page, plenty of empty space, and high contrast.**

Many students think their gray-on-gray (gray writing against a gray background) is good enough. It's not. Yes, you're good with the camera on your smartphone. No, you're not good enough at it to just take pictures and upload them to me for grading.

Some students DO manage to pull it off with CamScanner app. MOST students should just invest in a cheap printer with a good scanner that will make clean PDFs, or use a scanner at the Learning Commons or a commercial copy center, like Kinko's, to make high-quality scans of the work.

I'm only asking you to do this 5 times in the semester. It's not that huge of a chore to get it right, and if you get it right, you will get the best feedback and the best grade.

1. Your full name at the top of the 1st page.
2. Your work in One Column. #2 needs to be under #3 and so on. Don't start a new exercise on the same line as the previous. Start it BELOW.
3. MAT 1340 in the top left corner of every page.
4. Plenty of room between exercises for my feedback.
5. Black handwriting on a plain white (**no college-ruled or spiral paper!**) background.
6. Show all work.
7. Circle (or box) your final answers.
8. No highlighter!

This assignment is mainly about your learning how to properly write, format, and upload Writing Projects to the Assignments module in D2L (which is also called "BrightSpace").

For help on any of these exercises, see [Writing Project #0](#) notes and videos in [Writing Project Videos](#). I'm giving away the solutions for free on this one, if you're paying attention to the [Notes](#). I'm more concerned with the formatting and clarity. You really need to have a good way to transmit clear written mathematics, and that's our purpose, here.

1. (10 pts) Simplify $5 - 2(3x - 5) + 7(2 - 3x)$
2. Multiply
 - a. (10 pts) $3(2x^2)(2x + 3)(6x - 2)$
 - b. (10 pts) $(3x - 2)(2x^2 - 3x + 7)$
3. (10 pts) Evaluate $b^2 - 4ac$ if $a = 3, b = -7,$ and $c = 11$
4. (10 pts) Write $\frac{2310}{660}$ in lowest terms.
5. (10 pts) Simplify $\sqrt{37800}$ by factoring 37800 into a product of powers of primes. (Factoring tree/tower)
6. Factor. if possible:

- a. (5 pts) $x^2 - 3x - 10$
- b. (5 pts) $9x^2 - 16$
7. Simplify. Assume all variables represent nonzero real numbers. Your final answer should contain only positive exponents.
- a. (5 pts) $(a^2b^{-3})(a^{-5}b^2)$
- b. (5 pts) $(a^2b^{-3})^{-2}(a^{-5}b^2)^4$
- c. (5 pts) $\frac{3^4x^5y^{-2}}{9x^{-3}y^{-7}}$
- d. (5 pts) $\frac{(6x^2y^3)^{-2}}{(15x^{-2}y^{-5})^4}$
8. (5 pts) Consider the equation $ax^2 + bx + c = 0$. Write the discriminant.
9. (5 pts) What's the solution of the equation $ax^2 + bx + c = 0$?

Extra Skills (Not graded):

Factor each of the following, if possible:

1. (2 pts) $168x^2 + 326x - 165$
2. (2 pts) $x^3 - 64$
3. (2 pts) $27x^6 + 125y^6z^9$
4. (2 pts) $9x^2 + 16y^2$
5. (2 pts) $9x^2 - 16y^2z^{14}$
6. (5 pts) Mega-Bonus: Factor $x^2 - 4x + 1$

