

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**:

1. Your full name at the top of the sheet.
2. MAT 1340 in the top left corner of every page.
3. Plenty of room between exercises for my annotations.
4. Black handwriting on a plain white (no college-ruled or spiral paper!) background.
5. Show all work.
6. Circle (or box) your final answers.
7. 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](#) videos. 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. Simplify $5 - 2(3x - 5) + 7(2 - 3x)$
2. Multiply
 - a. $3(2x^2)(2x + 3)(6x - 2)$
 - b. $(3x - 2)(2x^2 - 3x + 7)$
3. Evaluate $b^2 - 4ac$ if $a = 3, b = -7,$ and $c = 11$
4. Write $\frac{2310}{660}$ in lowest terms.
5. Simplify $\sqrt{37800}$ without using a calculator.
6. Factor. if possible:
 - a. $x^2 - 3x - 10$
 - b. $9x^2 - 16$
7. Simplify. Assume all variables represent nonzero real numbers. Your final answer should contain only positive exponents.
 - a. $(a^2b^{-3})(a^{-5}b^2)$
 - b. $(a^2b^{-3})^{-2}(a^{-5}b^2)^4$
 - c. $\frac{3^4x^5y^{-2}}{9x^{-3}y^{-7}}$
 - d. $\frac{(6x^2y^3)^{-2}}{(15x^{-2}y^{-5})^4}$
8. Consider the equation $ax^2 + bx + c = 0$. Write the discriminant.



Bonus stuff: Earn up to 10 bonus points by working some or all of the following:

1. (2 pts) What's the solution of the equation $ax^2 + bx + c = 0$?

Factor each of the following, if possible:

2. (2 pts) $168x^2 + 326x - 165$
3. (2 pts) $x^3 - 64$
4. (2 pts) $27x^6 + 125y^6z^9$
5. (2 pts) $9x^2 + 16y^2$
6. (2 pts) $9x^2 - 16y^2z^{14}$
7. (5 pts) Mega-Bonus: Factor $x^2 - 4x + 1$