See Writing Project #0 for formatting and scanning information. The same standard applies to this and every other project.

Main Resources: Homework (Chapter 1) Notes and Videos, Writing Project 1 Videos (and notes), and a selection of Old Writing Projects.

#s 1 – 4 Use the quadratic formula to solve each of the following quadratic equations for x. 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. $x^2 + x - 42 = 0$
2. $3.08x^2 - 3.17x - 7.35 = 0$ (Round your final answer to 4 decimal places.)
3. $13x^2 - 12x + 17 = 0$ (Give an exact answer, in simplified radical form.
4. $12rx^2 - 15px - 11q = 0$ (Your answers will have letters in them. That's OK!)

#s 5, 6 Solve the following quadratic equations for x by factoring. You may use a 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. $x^2 + x - 42 = 0$
6. $308x^2 - 317x - 735 = 0$

#s 7 – 10 Solve the following quadratic equations for x by completing the square. Do not use decimals; rather, use *fractions*, as needed, to complete the square. For example, use $\left(\dfrac{7}{2}\right)^2$, instead of $(3.5)^2$ for #7.

7. $x^2 + 8x - 55 = 0$
8. $x^2 - 20x - 25 = 0$
9. $3x^2 + 7x + 13 = 0$
10. $3x^2 - 14x + 8 = 0$

If any of these equations have imaginary solutions, give those solutions. Don't stop just because there's no real solution.