## Writing Project #1 The 3 Ways to Solve a Quadratic Equation

**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.

- 1. Write on only one side of each page. I will not award (or deduct) points for anything written on the backs of pages.
- 2. Plain white paper without lines (8 <sup>1</sup>/<sub>2</sub> x 11-inch A4 copier paper works just fine).
- 3. Staple top left corner.
- 4. Leave margins. If you write a header at the top of each page, you should have enough of a margin. The main thing is that I won't de-staple your work, so I can see what you crammed into the top left corner. I'll just deduct points and move on.
- 5. Write DARK. Your teacher has glaucoma, and if your writing is too faint for me to read, you'll just get a '0' and I will move on to the next paper. One trick is to re-copy your work on the highest density setting on a copying machine, until your writing.
- 6. Leave ROOM between problems and between steps on your work. Saving paper to save the planet is a false economy, when it comes to your school work!
- 7. Clean, easy to read work is what I want to see. You don't need to type your, but you do need to write it up, clearly.
- 8. You do need to type up the discussion answering last question.

#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.

- 1.  $x^2 x 6 = 0$
- 2.  $6.2x^2 14.63x + 7.26 = 0$  (Round your final answer to 4 decimal places.)
- 3.  $4x^2 4x + 6 = 0$  (Give an exact answer, in simplified radical form.
- 4. Solve  $2\pi r^2 + 2\pi hr S = 0$  for r. Give an exact answer, in simplified radical form.

#s 5, 6 Solve the following by factoring. You may use a sledgehammer, if you wish, but write the polynomial in factored form, to show you understand the connection between factors and solutions, frontwards and backwards!

- 5.  $x^2 5x 6 = 0$
- 6.  $10x^2 37x 182 = 0$

#s 7 - 10 Solve the following by completing the square.

- 7.  $x^2 + 4x 12 = 0$
- 8.  $x^2 5x 11 = 0$
- 9.  $3x^2 4x + 3 = 0$
- 10.  $4x^2 20x + 23 = 0$
- 11. *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.