## 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 ( $81 / 2 \times 11$-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.
9. $x^{2}-x-6=0$
10. $6.2 x^{2}-14.63 x+7.26=0$ (Round your final answer to 4 decimal places.)
11. $4 x^{2}-4 x+6=0$ (Give an exact answer, in simplified radical form.
12. Solve $2 \pi r^{2}+2 \pi h r-S=0$ 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!
13. $x^{2}-5 x-6=0$
14. $10 x^{2}-37 x-182=0$
\#s 7 - 10 Solve the following by completing the square.
15. $x^{2}+4 x-12=0$
16. $x^{2}-5 x-11=0$
17. $3 x^{2}-4 x+3=0$
18. $4 x^{2}-20 x+23=0$
19. 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.
