

#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*. 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. (5 pts) $x^2 + 7x - 18 = 0$

2. (5 pts) $8.82x^2 + 1.89x - 22.01 = 0$ (Round your final answer to 4 decimal places.)

BONUS: (5 pts) Give an *exact* answer for #2, in simplified radical form, and NO DECIMALS.

3. (5 pts) $3x^2 - 7x + 6 = 0$ (Give an exact answer, in simplified radical form.)

4. (5 pts) $\pi x^2 - 5rx - 8w = 0$ (Solve for x . Your answers will have letters in them. That's OK!)

#s 5, 6 Solve the following 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. (5 pts) $x^2 + 5x - 36 = 0$

6. (5 pts) $21x^2 + 47x - 110 = 0$

#s 7 – 10 Solve the following by completing the square. **Do not use decimals**; rather, use *fractions*, as needed, to

complete the square. No 1 copping-out for #9. Add a symbolic $\left(\frac{3}{2}\right)^2$ to the left side, and a $\frac{9}{4}$ as a fraction on the right

side. The messy part is the $-7 + \frac{9}{4}$ on the right, and there's no ducking it. Final Answers in Simplified Radical Form.

7. (5 pts) $x^2 - 14x + 4 = 0$

8. (5 pts) $2x^2 - 6x - 23 = 0$

9. (5 pts) $2x^2 + 3x + 7 = 0$

10. (5 pts) $23x^2 - 4x + 5 = 0$

11. (5 pts) Discuss the pro's and con's each of the methods. I won't grade a wall of words. Paragraphs, people!