Name: _____

"Do I need to be liked? Absolutely not. I like to be liked. I enjoy being liked. I have to be liked, but it's not like this compulsive need to be liked, like my need to be praised."

— Michael Scott, The Office

Problem 1. (10pt) Showing all your work, factor $x^2 + 23x + 120$.

Problem 2. (10pt) Showing all your work, factor $-x^2 - 6x + 72$.

Problem 3. (10pt) Showing all your work, factor $18x^2 + 67x - 20$.

Problem 4. (10pt) Use the quadratic equation to factor $100x^2 - 225x + 126$.

Problem 5. (10pt) Use the quadratic equation to factor $x^2 - 6x + 1$.

Problem 6. (10pt) Showing all your work, solve the equation $x^2 - 9x + 14 = 0$.

Problem 7. (10pt) Showing all your work, solve the equation $x^2 + 2x = 48$.

Problem 8. (10pt) Showing all your work, solve the equation $x = 15 - 2x^2$.

Problem 9. (10pt) Use the quadratic equation to solve the equation $x^2 = 2x + 13$.

Problem 10. (10pt) Use the quadratic equation to solve the equation $x^2 + 29 = 10x$.