Name:

MATH 101

Fall 2022

HW 22: Due 12/07

Problem 1. (10pt) Factor each of the following quadratic functions:

(a) $x^2 - 64$

(b) $2x^2 - 4x - 6$

(c) $x^2 - 2x - 35$

(d) $x^2 + 8x + 16$

(e) $27 + 6x - x^2$

Problem 2. (10pt) Showing all your work, use the discriminant to show that $10x^2 + 33x - 7$ factors 'nicely' then factor the polynomial.

Problem 3. (10pt) Showing all your work, solve the following equation using factoring and then verify your solution:

$$x = 30 - x^2$$