

Name: _____

MATH 101

Spring 2022

HW 9: Due 04/12

*“Algebra is the intellectual instrument which has been created for
rendering clear the quantitative aspects of the world.”*

–Alfred Whitehead

Problem 1. (10pt) Showing all your work, factor the following completely:

(a) $x^2 - 14x + 48$

(b) $2x^2 + 14x - 120$

Problem 2. (10pt) Showing all your work, factor the following completely:

(a) $x^2 - 19x$

(b) $25 - 9x^2$

Problem 3. (10pt) Showing all your work, factor the following completely:

$$6x^2 - x - 12$$

Problem 4. (10pt) Use the discriminant of $f(x) = x^2 - 2x + 5$ to determine whether the quadratic function factors over the integers, reals, or complex numbers.