MATH 2170-19W Problem Set 6

March 4, 2019

Due: in class, March 13, 2019

[4] **Question 1.** Find all positive integer solutions to

$$5x + 16y = 121$$

[6] **Question 2.** Find all integer solutions to

$$3x + 7y + 11z = 157$$

Question 3. Consider the system of linear diophantine equations

$$\begin{cases} 10x & +6y & +3z & = & 232 \\ 9x & +7y & +6z & = & 278 \end{cases}$$

[8] (a) Find all the integer solutions.

[2] (b) Find all the solutions in positive integers.

Instructions: There was a specific algorithm for and method of presentation of the solutions of these problems in an augmented matrix form taught in class and in the text. For full credit you must demonstrate your knowledge and understanding of the algorithms.

[20] TOTAL