Quantitative Reasoning 28:
The Magic of Numbers

Homework 11

Assigned on Friday October 19th
Due at 12 noon Monday October 22nd

Please submit problem sets at the end of the relevant lecture, or leave in the box labeled QR28 outside the Math Department's main office, on the third floor of the Science Center (Room 325).

Reading:

Gross-Harris, Chapter 9

Problems:

Please explain your reasoning and show your work.
These problems are intended to familiarize you with the Euclidean Algorithm.

1. (a) Find the greatest common divisor of 161 and 205.

    (b) Find whole numbers x and y so that $161x + 205y = 1$.

2. (a) Find the greatest common divisor of 111 and 234.

    (b) Find whole numbers x and y so that $111x + 234y = 6$.

3. (a) Find the greatest common divisor of 186 and 270.

    (b) For which whole numbers m is it possible to find whole numbers x and y so that $186x + 270y = m$?