Quantitative Reasoning 28:
The Magic of Numbers

Homework 16

Assigned on Wednesday October 29th
Due at 12 noon Friday October 31st

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 14-15

Problems:

Please explain your reasoning and show your work.

1. (a) Find the addition and multiplication tables for arithmetic modulo 7.

   (b) In arithmetic mod 7, what is $3 - 6$? Remember, this is the number that, when added to 6, gives a result of 3.

   (c) In arithmetic mod 7, what is $2/5$? Remember, this is the number that, when multiplied by 5, gives a result of 2.

   (d) In arithmetic mod 7, what is $5 - 3$?

   (e) In arithmetic mod 7, what is $3 - 5$?

   (f) In arithmetic mod 7, what is $4/6$?

   (g) In arithmetic mod 7, what is $6/4$?

   (h) In arithmetic mod 7, what is $0/2$?