

Quantitative Reasoning 28: The Magic of Numbers

Homework 1

Assigned on Wednesday September 17th
Due at 12 noon, Friday September 19th

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 1

Problems:

Please explain your reasoning and show your work.

1. Prince Charles, the eldest son of Queen Elizabeth II, is 1st in line to the throne of England. Heinrich von Pezold is 1733rd in line to the throne. How many people would Heinrich have to bump off to become 1st in line to the throne?
2. How many numbers are there between 1437 and 1784, inclusive?
3. How many numbers are there between 64 and 150, inclusive? How many of them are even? How many are odd?
4. How many four-digit numbers (that is, numbers between 1000 and 9999, inclusive) are divisible by 6? How many are divisible by 11? (*Hint:* You'll need to figure out the highest and lowest such number.)