

Quantitative Reasoning 28: The Magic of Numbers

Homework 14

Assigned on March 14
Due at 5:00 p.m. March 16

Please submit problem sets to the boxes outside the Math Department's main office, on the third floor of the Science Center (Room 325).

Reading:

Gross-Harris, Chapter 12

Problems:

Please explain your reasoning and show your work.

- Is $\binom{19}{7}$ divisible by 13?
 - Is $\binom{19}{7}$ divisible by 10?
 - Is $\binom{19}{7}$ divisible by 6?
- Find the gcd of 18000 and 10935 by factoring these numbers.
- Recall the prime factorizations from the last problem.
 - How many positive whole numbers are divisors of *both* 18000 and 10935?
 - How many positive whole numbers are divisors of *either* 18000 or 10935? (Note that this includes numbers that are divisors of both.)