Math 2001: Homework W5

Due: October 31, 2008

The following assignment will be graded with an emphasis on clarity of exposition. You should write in complete sentences, be as precise as possible, and be mathematically correct (both in content and format). Be sure to include a title, a short introduction to the topic, and to define all the relevant mathematical terms. The assignment should be **typed**.

Explain why in a "normal" twenty-eight year period, every day of the week appears equally often on the 13th of a month. This is a fairly data heavy problem, so the crux of this assignment is to decide what information is critical to include and what information is superfluous. Be sure to

(a) Set the context and parameters of the problem (including what normal means),

(b) State a theorem,

(c) Prove the theorem (including only the critical details that give the structure of the proof).

For extra karma points: Explain which day of the week appears most frequently on the 13th of a month.