Problem Set 7: Write up

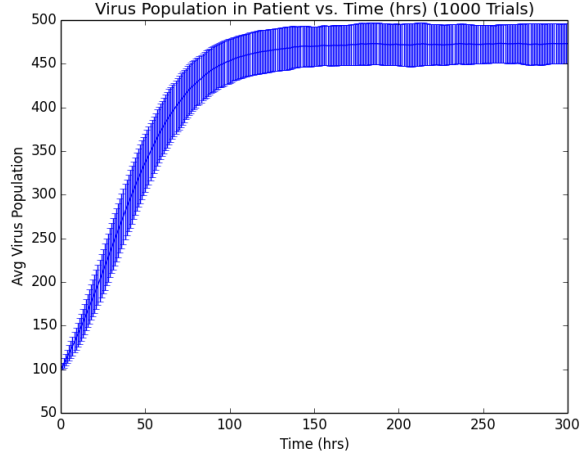Charles Griffin
(Dated: July 4, 2015)

FIG. 1. Stochastic model of virus growth without drug treatment. The population appears to stop increasing (more significantly than the error bars) at around 100 hours.

HOW LONG DOES IT TAKE BEFORE THE POPULATION STOPS GROWING?

PROBABILITY PROBLEMS

$$P(H, H, H) = \left(\frac{1}{2}\right)^3 \tag{1}$$

$$P(2H, 1T) = P(HHT) \times 3C2 = \frac{3}{8} \tag{2}$$

$$P(H > T) = P(3H) + P(2H, 1T) = \frac{1}{8} + \frac{3}{8} = \frac{1}{2} \tag{3}$$

$$P(5 of a kind) = \frac{ways to get 5 o K}{possibilities} = \frac{6}{6^5} = \left(\frac{1}{6}\right)^4 \tag{4}$$