

PBG 200A Notes

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1 Questions from the Notes

Question 1

$$H_t = H_0 \exp\left(-\frac{t}{2N}\right) \quad (1)$$

$$0.0049 = 0.005 \exp\left(-\frac{200/3}{2N}\right) \quad (2)$$

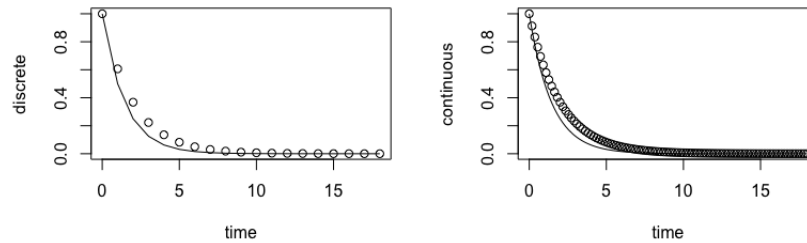
$$\ln 0.98 = -\frac{200}{6N} \quad (3)$$

$$N = -\frac{200}{6 \ln 0.98} \quad (4)$$

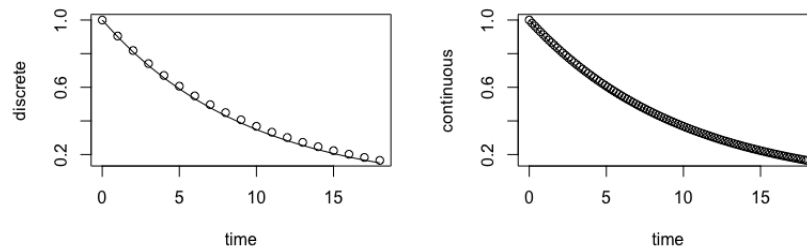
$$N = 1650 \quad (5)$$

Question 2

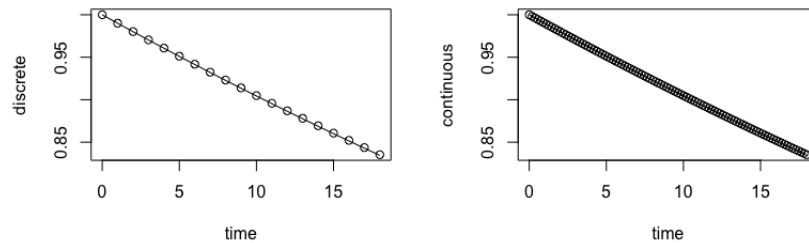
$x = 0.5$:



$x = 0.1$:



$x = 0.01$:



Question 3

A) $\pi_1 = 0.0012$, $\pi_2 = 0.000014$?????

B) $N_i = \frac{\theta_i}{4\mu}$ for $i = 1, 2$. If $\mu = 2 \times 10^{-8}$ and $\theta_1 = 0.0012$, then $N_1 = 15,000$. If $\theta_2 = 0.000014$, then $N_2 = 175$.

C) Oh my God they're adorable.