

MIS2:

$$\#1) \Delta t = \frac{1}{720} \text{ (yrs)}$$

$$(a) \text{ probability} \approx \mu_{80} \cdot \Delta t = 0.1 \cdot (1.01)^{80} \cdot \frac{1}{720} = 0.000307\dots$$

$$(b) \text{ probability} \approx {}_{20}P_{60} \cdot \mu_{80} \cdot \Delta t = 0.018 \cdot [0.1 \cdot (1.01)^{80}] \cdot \frac{1}{720} \\ = 0.000005542$$