Name: _____ .

Preview §2.3: The force of mortality

1. Give three equivalent definitions for μ_x, the force of mortality at age x.

   (a)

   (b)

   (c)

2. How can the expression $\mu_x \, dx$ be interpreted?

3. State important formulas relating

   (a) μ_x to S_0.

   (b) μ_x to S_0 and f_0.

   (c) μ_{x+t} to S_x and f_x.

4. State formula 2.11.

5. What are two functions that completely describe the lifetime distribution?

6. Define Gompertz' law of mortality.

7. For what ages does Gompertz' law of mortality provide a reasonable fit to mortality data?

8. Why might $S_0(1) < S_x(1)$ for $x \geq 1$?