Question #103
Key: A

Model Solution:

$$E[X] = \frac{\alpha\theta}{\alpha - 1} = \frac{4\alpha}{\alpha - 1} = 8 \Rightarrow 4\alpha = 8\alpha - 8$$

$$\alpha = 2$$

$$F(6) = 1 - \left(\frac{\theta}{6}\right)^{\alpha} = 1 - \left(\frac{4}{6}\right)^{2}$$

$$= 0.555$$

$$s(6) = 1 - F(6) = 0.444$$