

Question #140

Answer: B

$$\Pr(K = 0) = 1 - p_x = 0.1$$

$$\Pr(K = 1) = {}_1p_x - {}_2p_x = 0.9 - 0.81 = 0.09$$

$$\Pr(K > 1) = {}_2p_x = 0.81$$

$$E(Y) = .1 \times 1 + .09 \times 1.87 + .81 \times 2.72 = 2.4715$$

$$E(Y^2) = .1 \times 1^2 + .09 \times 1.87^2 + .81 \times 2.72^2 = 6.407$$

$$\text{VAR}(Y) = 6.407 - 2.4715^2 = 0.299$$