

Question #138

Answer: A

$$q_{40}^{(\tau)} = q_{40}^{(1)} + q_{40}^{(2)} = 0.34$$
$$= 1 - p_{40}'^{(1)} p_{40}'^{(2)}$$

$$0.34 = 1 - 0.75 p_{40}'^{(2)}$$

$$p_{40}'^{(2)} = 0.88$$

$$q_{40}'^{(2)} = 0.12 = y$$

$$q_{41}'^{(2)} = 2y = 0.24$$

$$q_{41}^{(\tau)} = 1 - (0.8)(1 - 0.24) = 0.392$$

$$l_{42}^{(\tau)} = 2000(1 - 0.34)(1 - 0.392) = 803$$