

Question #187

Answer: A

$$q'_{41}{}^{(1)} = 1 - p'_{41}{}^{(1)} = 1 - \left(p_{41}(\tau) \right)^{q_{41}{}^{(1)} / q_{41}(\tau)}$$

$$l_{41}(\tau) = l_{40}(\tau) - d_{40}{}^{(1)} - d_{40}{}^{(2)} = 1000 - 60 - 55 = 885$$

$$d_{41}{}^{(1)} = l_{41}(\tau) - d_{41}{}^{(2)} - l_{42}(\tau) = 885 - 70 - 750 = 65$$

$$p_{41}(\tau) = \frac{750}{885} \qquad \frac{q_{41}{}^{(1)}}{q_{41}(\tau)} = \frac{65}{135}$$

$$q'_{41}{}^{(1)} = 1 - \left(\frac{750}{885} \right)^{65/135} = 0.0766$$