

Question #282

Answer: B

$$\begin{aligned} P \int_0^{20} {}_t p_{30} {}_t p_{40} dt &= P \int_0^{20} \frac{70-t}{70} \frac{60-t}{60} dt = \frac{P}{4200} \int_0^{20} 4200 - 130t + t^2 dt \\ &= \frac{P}{4200} [4200(20) - 130(200) + 8000/3] = 14.444P \end{aligned}$$