Question #156
Answer: C

$$\left({}_9V + P\right)(1.03) = q_{x+9}b + \left(1 - q_{x+9}\right){}_{10}V$$
$$= q_{x+9}\left(b - {}_{10}V\right) + {}_{10}V$$
$$(343)(1.03) = 0.02904(872) + {}_{10}V$$
$$\Rightarrow {}_{10}V = 327.97$$
$$b = \left(b - {}_{10}V\right) + {}_{10}V = 872 + 327.97 = 1199.97$$
$$P = b\left(\frac{1}{\ddot{a}_x} - d\right) = 1200\left(\frac{1}{14.65976} - \frac{0.03}{1.03}\right)$$
$$= 46.92$$

${}_9V =$ benefit reserve at the start of year ten – P = 343 – 46.92 = 296.08