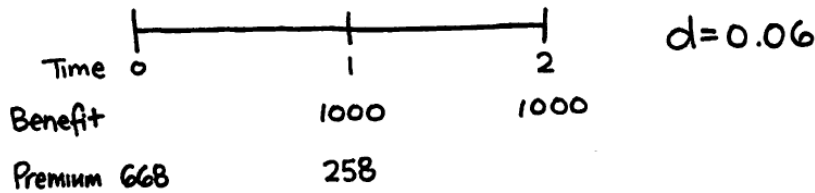


MLC #157



$$E(\text{Premiums}) = E(\text{Insurance Benefits})$$

$$668 + 258v p_x = 1000v q_x + 1000v^2 p_x q_{x+1} + 1000v^2 p_x p_{x+1}$$

$$668 + 258v p_x = 1000v q_x + 1000v^2 p_x (q_{x+1} + p_{x+1})$$

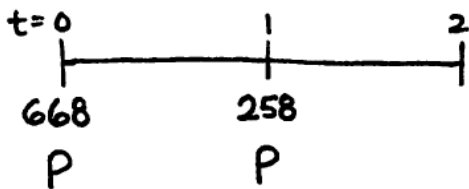
$$v = \frac{1}{1+i} \quad d = \frac{i}{1+i} \Rightarrow 1-d = 1 - \frac{i}{1+i} = \frac{1+i-i}{1+i} = v$$

$$v = 1-d = 0.94$$

$$668 + 258(.94)p_x = 1000(.94)q_x + 1000(.94)^2 p_x (1)$$

$$668 + 242.52p_x = 940(1-p_x) + 883.6p_x$$

$$p_x = 0.91$$



$$668 + 258(.94)(.91) = P + P(.94)(.91)$$

$$668 + 220.69 = P [1 + (.94)(.91)]$$

$$P = \frac{(668 + 220.69)}{1.8554} = 479 \text{ (B)}$$