

Question #121**Answer: A**

$$10,000A_{63}(1.12) = 5233$$

$$A_{63} = 0.4672$$

$$A_{x+1} = \frac{A_x(1+i) - q_x}{p_x}$$

$$A_{64} = \frac{(0.4672)(1.05) - 0.01788}{1 - 0.01788}$$
$$= 0.4813$$

$$A_{65} = \frac{(0.4813)(1.05) - 0.01952}{1 - 0.01952}$$
$$= 0.4955$$

$$\text{Single gross premium at 65} = (1.12)(10,000)(0.4955)$$
$$= 5550$$

$$(1+i)^2 = \frac{5550}{5233} \quad i = \sqrt{\frac{5550}{5233}} - 1 = 0.02984$$