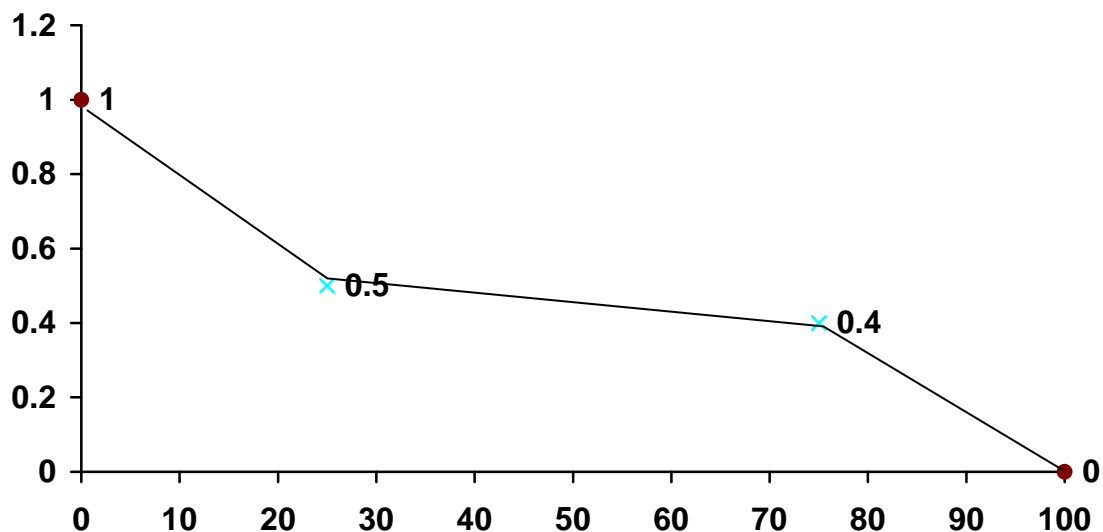


Question #200

Answer: A



	Give n		Give n		Give n		Given
x	0	15	25	35	75	90	100
$s(x)$	1	0.70	0.50	0.48	0.4	0.16	0
		Linear Interpolation		Linear Interpolation		Linear Interpolation	

$${}_{55}q_{35} = 1 - \frac{s(90)}{s(35)} = 1 - \frac{0.16}{0.48} = \frac{32}{48} = 0.6667$$

$${}_{20|55}q_{15} = \frac{s(35) - s(90)}{s(15)} = \frac{0.48 - 0.16}{0.70} = \frac{32}{70} = 0.4571$$

$$\frac{{}_{20|55}q_{15}}{{}_{55}q_{35}} = \frac{0.4571}{0.6667} = 0.6856$$

Alternatively,

$$\begin{aligned}\frac{{}_{20|55}q_{15}}{{}_{55}q_{35}} &= \frac{{}_{20}p_{15} \times {}_{55}q_{35}}{{}_{55}q_{35}} = {}_{20}p_{15} = \frac{s(35)}{s(15)} \\ &= \frac{0.48}{0.70} \\ &= 0.6856\end{aligned}$$