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EXAMPLE 1

A freehold property is worth Rs 50 Lacs in market. It is subject to life interest of a person aged 50 years who occupies the property. Find out the present value of the right of the reversioner (right to receive back the property on expiry of the life tenant) if value of the property rises at the rate of 3 % per year in market as simple appreciation and interest rate is 7%. Adopt Carlisle table.

Life expectancy of a person aged 50 years as per Carlisle table is 21.11 years ... say 21 years

36.23 TABLE NO. 6 - CARLISLE TABLE - (A) (Refer Chapter 26)

MORTALITY AND MEAN EXPECTATION OF LIFE
Compiled by Joshua Milne

Age	Number who Attain the given age	Mean expectation (Years)	Age	Number who attain the given age	Mean expectation (Years)
0	10000	38.72	31	5585	33.68
1	8461	44.67	32	5528	33.02
2	7779	47.55			
3	7274	47.55	33	5472	32.36
4	6998	50.76	34	5417	31.68
5	6797	51.24	35	5362	31.00
6	6676	51.16	36	5307	30.32
7	6594	50.79	37	5251	29.63
8	6536	50.24	38	5194	28.95
9	6493	49.57	39	5136	28.27
10	6460	48.82	40	5075	27.61
11	6431	48.04	41	5009	26.97
12	6400	47.27	42	4940	26.33
13	6368	46.50	43	4869	25.71
14	6335	45.74	44	4798	25.08
15	6300	44.99	45	4727	24.45
16	6261	44.27	46	4657	23.81
17	6219	43.57	47	4588	23.16
18	6176	42.87	48	4521	22.50
19	6133	42.16	49	4458	21.81
20	6090	41.46	50	4397	21.11
21	6047	40.75	51	4338	20.39
22	6005	40.03	52	4276	19.68
23	5963	39.31	53	4211	18.97
24	5921	38.58	54	4143	18.27
25	5879	37.86	55	4073	17.58
26	5836	37.18	56	4000	16.89
27	5793	36.40	57	3924	16.21
28	5748	35.68	58	3842	15.54
29	5698	34.99	59	3749	14.92
30	5642	34.34	60	3643	14.34

Age	Number who Attain the given age	Mean expectation (Years)	Age	Number who attain the given age	Mean expectation (Years)
61	3531	13.82	86	367	3.90
62	3395	13.01	87	296	3.71
63	3268	12.81	88	232	3.59
64	3143	12.30	89	181	3.47
65	3018	11.79	90	142	3.28
66	2894	11.27	91	105	3.26
67	2771	10.75	92	75	3.37
68	2648	10.23	93	54	3.48
69	2525	9.70	94	40	3.52
70	2401	9.17	95	30	3.50
71	2277	8.65	96	23	3.46
72	2143	8.16	97	18	3.28
73	1997	7.72	98	14	3.07
74	1841	7.33	99	11	2.77
75	1675	7.00	100	9	2.28
76	1515	6.69	101	7	1.70
77	1359	6.40	102	5	1.30
78	1218	6.11	103	3	0.88
79	1081	5.80	104	1	0.50
80	958	5.51	105	0	0.00
81	837	5.20			
82	725	4.95			
83	628	4.65			
84	529	4.39			
85	445	4.12			

● Current value of property = 50 Lacs

Considering 3% simple increment every year for 21 years

$$\begin{aligned}\text{Property value after 21 years} &= 50,00,000 + 0.03 \times 21 \times 50,00,000 \\ &= \text{Rs } 81,50,000/-\end{aligned}$$

The Present Value of that property will be

$$\begin{aligned}\text{PV} &= 81,50,000 \times \frac{1}{(1+r)^n} = 81,50,000 \times \frac{1}{(1+0.07)^{21}} \\ &= 19,68,314/-\end{aligned}$$

Say Rs 19,50,000/-

As per Carlisle table, Probability of a person aged 50 reaching age 71 are 4397 and 2277 respectively

$$\text{So Probability Factor} = 2277/4397 = 0.5178$$

Hence the Present Value of the property to the Reversioner applying the probability factor

$$\begin{aligned}\text{PV(reversioner)} &= \text{Rs } 19,50,000/- \times 0.5178 \\ &= \text{Rs } 10,09,710/-\end{aligned}$$

Say = Rs 10,00,000/-

Thank

You

