

# A machine owner finds from his past records that the cost per year of maintaining machine A whose purchase price is Rs 6000 are as given below.

Year	1	2	3	4	5	6	7	8
Maintenance cost	1000	1200	1400	1800	2300	2800	3400	4000
Resale price (scrap value)	3000	1500	750	375	200	200	200	200

At what age is replacement done?

Year	Cost maintenance	Total maintain cost	Resale price	$\frac{6000 - \text{Resale price}}{\text{Year}}$	$\frac{\text{Total maintain cost}}{\text{Year}}$	TC Average
1	1000	1000	3000	$\frac{6000 - 3000}{1} = 3000$	TC 4000	4000
2	1200	2200	1500	4500	6700	3350
3	1400	3600	750	5250	8850	2950
4	1800	5400	375	5625	11025	2756
5	2300	7700	200	5800	13500	2700
6	2800	10500	200	5800	16300	2717
7	3400	13900	200	5800	16300	1
8	4000	17900	200	5800	16300	

It is clear from the table that replacement is made of machine A at the end of 5<sup>th</sup> year & minimum average yearly cost is Rs 2700