

How Time Affects The Value of Money

Investor A invests \$2,000 a year for 10 years, beginning at age 25. Investor B waits 10 years, then invests \$2,000 a year for 31 years. Compare the total contributions and the total value at retirement of the two investments. This example assumes a 9 percent fixed rate of return, compounded monthly. All interest is left in the account to allow interest to be earned on interest.

Investor A				Investor B			
Age	Yrs	Contri- butions	Year-end Value	Age	Yrs	Contri- butions	Year-end Value
25	1	\$ 2,000	\$2,188	25	1	\$ 0	\$0
26	2	2,000	4,580	26	2	0	0
27	3	2,000	7,198	27	3	0	0
28	4	2,000	10,061	28	4	0	0
29	5	2,000	13,192	29	5	0	0
30	6	2,000	16,617	30	6	0	0
31	7	2,000	20,363	31	7	0	0
32	8	2,000	24,461	32	8	0	0
33	9	2,000	28,944	33	9	0	0
34	10	2,000	33,846	34	10	0	0
35	11	0	37,021	35	11	2,000	2,188
40	16	0	57,963	40	16	10,000	16,617
45	21	0	90,752	45	21	10,000	39,209
50	26	0	142,089	50	26	10,000	74,580
55	31	0	222,466	55	31	10,000	129,961
60	36	0	348,311	60	36	10,000	216,670
65	41	0	545,344	65	41	10,000	352,427
Value at Retirement		\$545,344		Value at Retirement		\$352,427	
Less Total Contributions		(\$20,000)		Less Total Contributions		(\$62,000)	
Net Earnings		\$525,344		Net Earnings		\$290,427	

Using the data for investors A & B, answer the following questions.

1. At \$2,000/year, how much did Investor A invest in the 10 years between the ages of 25 and 35?

2. What is the year-end value of Investor A's investment at the end of 10 years when the Investor is 35?

3. At \$2,000/year, how much did Investor B invest over the 31 years, from age 35 through 65?

4. What is the value at retirement of Investor A's investment?

5. What is the value at retirement of Investor B's investment?

6. What are Investor A's net earnings?

7. What are Investor B's net earnings?

8. What advice would you give to your children about investing for their retirement?

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