

## The Magic of Compound Interest

Do you spend \$10 per week on piddlyjunk? Imagine what it would be worth if you started saving and investing it instead?

$$\text{\$10} \times 52 \text{ weeks per year} = \text{\$520}$$

If you put that \$10 a week away (invested it) for 50 years (from age 15-65), at the average interest rate of return for the stock market (10%), guess how much money you would have at age 65? What would you have with a 12% return on your investment?

\$167,083

\$1,200,000

\$756,979

\$26,000

\$1,709,453

Write your answer here (10%): \_\_\_\_\_

Write your answer here (12%): \_\_\_\_\_

# It's Magic!

## Growing A Dollar

"Compounding is the 8th wonder of the world." Albert Einstein

<b>HOW \$1 GROWS OVER TIME</b>						
<b>Growth Rates (Compound Interest Rate)</b>						
YEARS	3%	5%	7%	9%	11%	15%
<b>1</b>	1.03	1.05	1.07	1.09	1.11	1.15
<b>5</b>	1.16	1.28	1.40	1.54	1.69	2.01
<b>10</b>	1.34	1.63	1.97	2.37	2.64	4.05
<b>15</b>	1.56	2.08	2.76	3.64	4.78	8.14
<b>20</b>	1.81	2.65	3.87	5.60	8.06	16.37
<b>25</b>	2.09	3.39	5.43	8.62	13.59	32.92
<b>30</b>	2.43	4.32	7.61	13.27	22.89	66.21
<b>35</b>	2.81	5.52	10.68	20.41	38.57	133.18
<b>40</b>	3.26	7.04	14.97	31.41	65.00	267.86
<b>45</b>	3.78	8.99	21.00	48.33	109.56	538.77
<b>50</b>	4.38	11.46	29.46	74.36	184.56	1083.66

Keep in mind that interest rates are NEVER stable but are averaged out over a period of time.

Also, remember that a higher rate of return usually means higher risk.

"Compounding interest is the 8th wonder of the world." Albert Einstein

## Penny Doubling

<b>One Penny Doubled Each Day for a Month (100% interest or return)</b>			
<b>Day 1</b>	\$0.01	<b>Day 16</b>	\$327.68
<b>Day 2</b>	\$0.02	<b>Day 17</b>	\$655.36
<b>Day 3</b>	\$0.04	<b>Day 18</b>	\$1,310.72
<b>Day 4</b>	\$0.08	<b>Day 19</b>	\$2,621.44
<b>Day 5</b>	\$0.16	<b>Day 20</b>	\$5,242.88
<b>Day 6</b>	\$0.32	<b>Day 21</b>	\$10,485.76
<b>Day 7</b>	\$0.64	<b>Day 22</b>	\$20,971.52
<b>Day 8</b>	\$1.28	<b>Day 23</b>	\$41,943.04
<b>Day 9</b>	\$2.56	<b>Day 24</b>	\$83,886.08
<b>Day 10</b>	\$5.12	<b>Day 25</b>	\$167,772.16
<b>Day 11</b>	\$10.24	<b>Day 26</b>	\$335,544.32
<b>Day 12</b>	\$20.48	<b>Day 27</b>	\$671,088.64
<b>Day 13</b>	\$40.96	<b>Day 28</b>	\$1,342,177.28
<b>Day 14</b>	\$81.92	<b>Day 29</b>	\$2,684,354.56
<b>Day 15</b>	\$163.84	<b>Day 30</b>	<b>\$5,368,709.12</b>

## The Test of Time

Kermit opened a Tax-Deferred Retirement Account (IRA, Roth IRA, 401K) and invested \$3000 a year for 8 years starting at age 19 and then stopped investing. His investments averaged a 10% return.

Miss Piggy spent \$3000 for 8 years then decided to open a Tax-Deferred Retirement Account and invested \$3000 a year for the next 34 years which also averaged a 10% return.

### KERMIT

age	payment	year end	age	payment	year end
19	\$3000	3,300	42		173,407
20	\$3000	6,930	43		190,748
21	\$3000	10,923	44		209,823
22	\$3000	15,315	45		230,805
23	\$3000	20,147	46		253,885
24	\$3000	25,462	47		279,274
25	\$3000	31,308	48		307,201
26	\$3000	37,738	49		337,921
27		41,512	50		371,712
28		45,663	51		408,885
29		50,230	52		449,773
30		55,253	53		494,751
31		60,778	54		544,227
32		66,856	55		598,648
33		73,542	56		658,513
34		80,896	57		724,364
35		88,985	58		796,801
36		97,883	59		876,480
37		107,672	60		964,129
38		118,439			
39		130,283			
40		143,312			
41		157,643			

**He invested  
\$24,000  
Grand Total  
\$964,129**

### MISS PIGGY

age	payment	year end	age	payment	year end
19		0	42	\$3000	118,634
20		0	43	\$3000	133,798
21		0	44	\$3000	150,477
22		0	45	\$3000	168,825
23		0	46	\$3000	189,008
24		0	47	\$3000	211,208
25		0	48	\$3000	235,629
26		0	49	\$3000	262,492
27	\$3000	3,300	50	\$3000	292,041
28	\$3000	6,930	51	\$3000	324,545
29	\$3000	10,923	52	\$3000	360,300
30	\$3000	15,315	53	\$3000	399,630
31	\$3000	20,147	54	\$3000	442,893
32	\$3000	25,462	55	\$3000	490,482
33	\$3000	31,308	56	\$3000	542,830
34	\$3000	37,738	57	\$3000	600,413
35	\$3000	44,812	58	\$3000	663,755
36	\$3000	52,593	59	\$3000	733,430
37	\$3000	61,153	60	\$3000	810,073
38	\$3000	70,568			
39	\$3000	80,924			
40	\$3000	92,317			
41	\$3000	104,849			

**She invested  
\$102,000  
Grand Total  
\$810,073**

# Save Early, Save Often!

When should YOU start saving and investing? \_\_\_\_\_

**Whatever you do, DON'T WAIT!**

TIME can be your worst enemy or your greatest friend. Regardless of your age, the rule of thumb is:

**START NOW!** 

If you want to have \$1,000,000 at retirement, look what you must save and invest every month, depending on your age when you start, at a 10% rate of return (ROI).

Years to Retirement	Monthly Investment Needed	
40	\$\$	\$158 per month
35	\$\$\$	\$263 per month
30	\$\$\$\$\$	\$442 per month
25	\$\$\$\$\$\$\$	\$754 per month
20	\$\$\$\$\$\$\$\$\$	\$1,317 per month
15	\$\$\$\$\$\$\$\$\$\$	\$2,412 per month
10	\$\$\$\$\$\$\$\$\$\$\$\$	\$4,881 per month
5	\$\$\$\$\$\$\$\$\$\$\$\$\$	\$12,931 per month!!!



**Don't Wait!  
Put Time on YOUR Side!**