

### Present Value of \$1 Stream of Payments

	3%	4%	5%	6%	7%	8%	9%	10%	11%	12%
1	0.971	0.962	0.952	0.943	0.935	0.926	0.917	0.909	0.901	0.893
2	1.913	1.886	1.859	1.833	1.808	1.783	1.759	1.736	1.713	1.690
3	2.829	2.775	2.723	2.673	2.624	2.577	2.531	2.487	2.444	2.402
4	3.717	3.630	3.546	3.465	3.387	3.312	3.240	3.170	3.102	3.037
5	4.580	4.452	4.329	4.212	4.100	3.993	3.890	3.791	3.696	3.605
6	5.417	5.242	5.076	4.917	4.767	4.623	4.486	4.355	4.231	4.111
7	6.230	6.002	5.786	5.582	5.389	5.206	5.033	4.868	4.712	4.564
8	7.020	6.733	6.463	6.210	5.971	5.747	5.535	5.335	5.146	4.968
9	7.786	7.435	7.108	6.802	6.515	6.247	5.995	5.759	5.537	5.328
10	8.530	8.111	7.722	7.360	7.024	6.710	6.418	6.145	5.889	5.650
11	9.253	8.760	8.306	7.887	7.499	7.139	6.805	6.495	6.207	5.938
12	9.954	9.385	8.863	8.384	7.943	7.536	7.161	6.814	6.492	6.194
13	10.635	9.986	9.394	8.853	8.358	7.904	7.487	7.103	6.750	6.424
14	11.296	10.563	9.899	9.295	8.745	8.244	7.786	7.367	6.982	6.628
15	11.938	11.118	10.380	9.712	9.108	8.559	8.061	7.606	7.191	6.811
16	12.561	11.652	10.838	10.106	9.447	8.851	8.313	7.824	7.379	6.974
17	13.166	12.166	11.274	10.477	9.763	9.122	8.544	8.022	7.549	7.120
18	13.754	12.659	11.690	10.828	10.059	9.372	8.756	8.201	7.702	7.250
19	14.324	13.134	12.085	11.158	10.336	9.604	8.950	8.365	7.839	7.366
20	14.877	13.590	12.462	11.470	10.594	9.818	9.129	8.514	7.963	7.469
21	15.415	14.029	12.821	11.764	10.836	10.017	9.292	8.649	8.075	7.562
22	15.937	14.451	13.163	12.042	11.061	10.201	9.442	8.772	8.176	7.645
23	16.444	14.857	13.489	12.303	11.272	10.371	9.580	8.883	8.266	7.718
24	16.936	15.247	13.799	12.550	11.469	10.529	9.707	8.985	8.348	7.784
25	17.413	15.622	14.094	12.783	11.654	10.675	9.823	9.077	8.422	7.843
26	17.877	15.983	14.375	13.003	11.826	10.810	9.929	9.161	8.488	7.896
27	18.327	16.330	14.643	13.211	11.987	10.935	10.027	9.237	8.548	7.943
28	18.764	16.663	14.898	13.406	12.137	11.051	10.116	9.307	8.602	7.984
29	19.188	16.984	15.141	13.591	12.278	11.158	10.198	9.370	8.650	8.022
30	19.600	17.292	15.372	13.765	12.409	11.258	10.274	9.427	8.694	8.055

We use this table in chapter 10 to compute the present value of the yearly interest payments.

### Present Value of \$1 Lump Sum Principal

	3%	4%	5%	6%	7%	8%	9%	10%	11%	12%
1	0.971	0.962	0.952	0.943	0.935	0.926	0.917	0.909	0.901	0.893
2	0.943	0.925	0.907	0.890	0.873	0.857	0.842	0.826	0.812	0.797
3	0.915	0.889	0.864	0.840	0.816	0.794	0.772	0.751	0.731	0.712
4	0.888	0.855	0.823	0.792	0.763	0.735	0.708	0.683	0.659	0.636
5	0.863	0.822	0.784	0.747	0.713	0.681	0.650	0.621	0.593	0.567
6	0.837	0.790	0.746	0.705	0.666	0.630	0.596	0.564	0.535	0.507
7	0.813	0.760	0.711	0.665	0.623	0.583	0.547	0.513	0.482	0.452
8	0.789	0.731	0.677	0.627	0.582	0.540	0.502	0.467	0.434	0.404
9	0.766	0.703	0.645	0.592	0.544	0.500	0.460	0.424	0.391	0.361
10	0.744	0.676	0.614	0.558	0.508	0.463	0.422	0.386	0.352	0.322
11	0.722	0.650	0.585	0.527	0.475	0.429	0.388	0.350	0.317	0.287
12	0.701	0.625	0.557	0.497	0.444	0.397	0.356	0.319	0.286	0.257
13	0.681	0.601	0.530	0.469	0.415	0.368	0.326	0.290	0.258	0.229
14	0.661	0.577	0.505	0.442	0.388	0.340	0.299	0.263	0.232	0.205
15	0.642	0.555	0.481	0.417	0.362	0.315	0.275	0.239	0.209	0.183
16	0.623	0.534	0.458	0.394	0.339	0.292	0.252	0.218	0.188	0.163
17	0.605	0.513	0.436	0.371	0.317	0.270	0.231	0.198	0.170	0.146
18	0.587	0.494	0.416	0.350	0.296	0.250	0.212	0.180	0.153	0.130
19	0.570	0.475	0.396	0.331	0.277	0.232	0.194	0.164	0.138	0.116
20	0.554	0.456	0.377	0.312	0.258	0.215	0.178	0.149	0.124	0.104
21	0.538	0.439	0.359	0.294	0.242	0.199	0.164	0.135	0.112	0.093
22	0.522	0.422	0.342	0.278	0.226	0.184	0.150	0.123	0.101	0.083
23	0.507	0.406	0.326	0.262	0.211	0.170	0.138	0.112	0.091	0.074
24	0.492	0.390	0.310	0.247	0.197	0.158	0.126	0.102	0.082	0.066
25	0.478	0.375	0.295	0.233	0.184	0.146	0.116	0.092	0.074	0.059
26	0.464	0.361	0.281	0.220	0.172	0.135	0.106	0.084	0.066	0.053
27	0.450	0.347	0.268	0.207	0.161	0.125	0.098	0.076	0.060	0.047
28	0.437	0.333	0.255	0.196	0.150	0.116	0.090	0.069	0.054	0.042
29	0.424	0.321	0.243	0.185	0.141	0.107	0.082	0.063	0.048	0.037
30	0.412	0.308	0.231	0.174	0.131	0.099	0.075	0.057	0.044	0.033

We use this table in chapter 10 to compute the present value of the single principal repayment.

(It is the same table we used in Chapter 6 to compute the Discounted Cash Flow Model problems.)

Example problem from chapter 10 worksheet #1:

4) Using annual compounding, find the prices for the following bonds

a) 9%, 10-year bond priced to yield 7%

$$\begin{aligned}
 \text{bond price} &= \text{present value (yearly interest income)} + \text{present value (principal repayment)} \\
 &= \$90 * 7.024 + \$1,000 * 0.508 \\
 &= \$632.16 + \$508 \\
 &= \$1,140.16
 \end{aligned}$$

a) 5%, 20-year bond priced to yield 8%

$$\begin{aligned}
 \text{bond price} &= \text{present value (yearly interest income)} + \text{present value (principal repayment)} \\
 &= \$50 * 9.818 + \$1,000 * 0.215 \\
 &= \$490.90 + \$215 \\
 &= \$705.90
 \end{aligned}$$