

Table 1

Present Value of \$1

$$PV = 1 / (1+r)^n = (1+r)^{-n}$$

(n) Periods	2%	3%	4%	5%	6%	7%	8%	9%	10%	11%	12%	15%	16%	17%
1	0.98039	0.97087	0.96154	0.95238	0.94340	0.93458	0.92593	0.91743	0.90909	0.90090	0.89286	0.86957	0.86207	0.85470
2	0.96117	0.94260	0.92456	0.90703	0.89000	0.87344	0.85734	0.84168	0.82645	0.81162	0.79719	0.75614	0.74316	0.73051
3	0.94232	0.91514	0.88900	0.86384	0.83962	0.81630	0.79383	0.77218	0.75131	0.73119	0.71178	0.65752	0.64066	0.62437
4	0.92385	0.88849	0.85480	0.82270	0.79209	0.76290	0.73503	0.70843	0.68301	0.65873	0.63552	0.57175	0.55229	0.53365
5	0.90573	0.86261	0.82193	0.78353	0.74726	0.71299	0.68058	0.64993	0.62092	0.59345	0.56743	0.49718	0.47611	0.45611
6	0.88797	0.83748	0.79031	0.74622	0.70496	0.66634	0.63017	0.59627	0.56447	0.53464	0.50663	0.43233	0.41044	0.38984
7	0.87056	0.81309	0.75992	0.71068	0.66506	0.62275	0.58349	0.54703	0.51316	0.48166	0.45235	0.37594	0.35383	0.33320
8	0.85349	0.78941	0.73069	0.67684	0.62741	0.58201	0.54027	0.50187	0.46651	0.43393	0.40388	0.32690	0.30503	0.28478
9	0.83676	0.76642	0.70259	0.64461	0.59190	0.54393	0.50025	0.46043	0.42410	0.39092	0.36061	0.28426	0.26295	0.24340
10	0.82035	0.74409	0.67556	0.61391	0.55839	0.50835	0.46319	0.42241	0.38554	0.35218	0.32197	0.24718	0.22668	0.20804
11	0.80426	0.72242	0.64958	0.58468	0.52679	0.47509	0.42888	0.38753	0.35049	0.31728	0.28748	0.21494	0.19542	0.17781
12	0.78849	0.70138	0.62460	0.55684	0.49697	0.44401	0.39711	0.35553	0.31863	0.28584	0.25668	0.18691	0.16846	0.15197
13	0.77303	0.68095	0.60057	0.53032	0.46884	0.41496	0.36770	0.32618	0.28966	0.25751	0.22917	0.16253	0.14523	0.12989
14	0.75788	0.66112	0.57748	0.50507	0.44230	0.38782	0.34046	0.29925	0.26333	0.23199	0.20462	0.14133	0.12520	0.11102
15	0.74301	0.64186	0.55526	0.48102	0.41727	0.36245	0.31524	0.27454	0.23939	0.20900	0.18270	0.12289	0.10793	0.09489
16	0.72845	0.62317	0.53391	0.45811	0.39365	0.33873	0.29189	0.25187	0.21763	0.18829	0.16312	0.10686	0.09304	0.08110
17	0.71416	0.60502	0.51337	0.43630	0.37136	0.31657	0.27027	0.23107	0.19784	0.16963	0.14564	0.09293	0.08021	0.06932
18	0.70016	0.58739	0.49363	0.41552	0.35034	0.29586	0.25025	0.21199	0.17986	0.15282	0.13004	0.08081	0.06914	0.05925
19	0.68643	0.57029	0.47464	0.39573	0.33051	0.27651	0.23171	0.19449	0.16351	0.13768	0.11611	0.07027	0.05961	0.05064
20	0.67297	0.55368	0.45639	0.37689	0.31180	0.25842	0.21455	0.17843	0.14864	0.12403	0.10367	0.06110	0.05139	0.04328
25	0.60953	0.47761	0.37512	0.29530	0.23300	0.18425	0.14602	0.11597	0.09230	0.07361	0.05882	0.03038	0.02447	0.01974
30	0.55207	0.41199	0.30832	0.23138	0.17411	0.13137	0.09938	0.07537	0.05731	0.04368	0.03338	0.01510	0.01165	0.00900
35	0.50003	0.35538	0.25342	0.18129	0.13011	0.09366	0.06763	0.04899	0.03558	0.02592	0.01894	0.00751	0.00555	0.00411
40	0.45289	0.30656	0.20829	0.14205	0.09722	0.06678	0.04603	0.03184	0.02209	0.01538	0.01075	0.00373	0.00264	0.00187

Table 2 Present Value of an Ordinary Annuity of \$1

$$PV = (1 - (1/(1+r)^n))/r = (1 - (1+r)^{-n})/r$$

(n) Periods	2%	3%	4%	5%	6%	7%	8%	9%	10%	11%	12%	15%	16%	17%
1	0.98039	0.97087	0.96154	0.95238	0.94340	0.93458	0.92593	0.91743	0.90909	0.90090	0.89286	0.86957	0.86207	0.85470
2	1.94156	1.91347	1.88609	1.85941	1.83339	1.80802	1.78326	1.75911	1.73554	1.71252	1.69005	1.62571	1.60523	1.58521
3	2.88388	2.82861	2.77509	2.72325	2.67301	2.62432	2.57710	2.53129	2.48685	2.44371	2.40183	2.28323	2.24589	2.20958
4	3.80773	3.71710	3.62990	3.54595	3.46511	3.38721	3.31213	3.23972	3.16987	3.10245	3.03735	2.85498	2.79818	2.74324
5	4.71346	4.57971	4.45182	4.32948	4.21236	4.10020	3.99271	3.88965	3.79079	3.69590	3.60478	3.35216	3.27429	3.19935
6	5.60143	5.41719	5.24214	5.07569	4.91732	4.76654	4.62288	4.48592	4.35526	4.23054	4.11141	3.78448	3.68474	3.58918
7	6.47199	6.23028	6.00205	5.78637	5.58238	5.38929	5.20637	5.03295	4.86842	4.71220	4.56376	4.16042	4.03857	3.92238
8	7.32548	7.01969	6.73274	6.46321	6.20979	5.97130	5.74664	5.53482	5.33493	5.14612	4.96764	4.48732	4.34359	4.20716
9	8.16224	7.78611	7.43533	7.10782	6.80169	6.51523	6.24689	5.99525	5.75902	5.53705	5.32825	4.77158	4.60654	4.45057
10	8.98259	8.53020	8.11090	7.72173	7.36009	7.02358	6.71008	6.41766	6.14457	5.88923	5.65022	5.01877	4.83323	4.65860
11	9.78685	9.25262	8.76048	8.30641	7.88687	7.49867	7.13896	6.80519	6.49506	6.20652	5.93770	5.23371	5.02864	4.83641
12	10.57534	9.95400	9.38507	8.86325	8.38384	7.94269	7.53608	7.16073	6.81369	6.49236	6.19437	5.42062	5.19711	4.98839
13	11.34837	10.63496	9.98565	9.39357	8.85268	8.35765	7.90378	7.48690	7.10336	6.74987	6.42355	5.58315	5.34233	5.11828
14	12.10625	11.29607	10.56312	9.89864	9.29498	8.74547	8.24424	7.78615	7.36669	6.98187	6.62817	5.72448	5.46753	5.22930
15	12.84926	11.93794	11.11839	10.37966	9.71225	9.10791	8.55948	8.06069	7.60608	7.19087	6.81086	5.84737	5.57546	5.32419
16	13.57771	12.56110	11.65230	10.83777	10.10590	9.44665	8.85137	8.31256	7.82371	7.37916	6.97399	5.95423	5.66850	5.40529
17	14.29187	13.16612	12.16567	11.27407	10.47726	9.76322	9.12164	8.54363	8.02155	7.54879	7.11963	6.04716	5.74870	5.47461
18	14.99203	13.75351	12.65930	11.68959	10.82760	10.05909	9.37189	8.75563	8.20141	7.70162	7.24967	6.12797	5.81785	5.53385
19	15.67846	14.32380	13.13394	12.08532	11.15812	10.33560	9.60360	8.95011	8.36492	7.83929	7.36578	6.19823	5.87746	5.58449
20	16.35143	14.87747	13.59033	12.46221	11.46992	10.59401	9.81815	9.12855	8.51356	7.96333	7.46944	6.25933	5.92884	5.62777
25	19.52346	17.41315	15.62208	14.09394	12.78336	11.65358	10.67478	9.82258	9.07704	8.42174	7.84314	6.46415	6.09709	5.76623
30	22.39646	19.60044	17.29203	15.37245	13.76483	12.40904	11.25778	10.27365	9.42691	8.69379	8.05518	6.56598	6.17720	5.82939
35	24.99862	21.48722	18.66461	16.37419	14.49825	12.94767	11.65457	10.56682	9.64416	8.85524	8.17550	6.61661	6.21534	5.85820
40	27.35548	23.11477	19.79277	17.15909	15.04630	13.33171	11.92461	10.75736	9.77905	8.95105	8.24378	6.64178	6.23350	5.87133

Table 3

Present Value of an Annuity Due of \$1

$$PV = 1 + ((1 - (1/(1+r)^{(n-1)})) / r) = 1 + ((1 - (1+r)^{(1-n)}) / r)$$

(n) Periods	2%	3%	4%	5%	6%	7%	8%	9%	10%	11%	12%	15%	16%	17%
1	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000
2	1.98039	1.97087	1.96154	1.95238	1.94340	1.93458	1.92593	1.91743	1.90909	1.90090	1.89286	1.86957	1.86207	1.85470
3	2.94156	2.91347	2.88609	2.85941	2.83339	2.80802	2.78326	2.75911	2.73554	2.71252	2.69005	2.62571	2.60523	2.58521
4	3.88388	3.82861	3.77509	3.72325	3.67301	3.62432	3.57710	3.53129	3.48685	3.44371	3.40183	3.28323	3.24589	3.20958
5	4.80773	4.71710	4.62990	4.54595	4.46511	4.38721	4.31213	4.23972	4.16987	4.10245	4.03735	3.85498	3.79818	3.74324
6	5.71346	5.57971	5.45182	5.32948	5.21236	5.10020	4.99271	4.88965	4.79079	4.69590	4.60478	4.35216	4.27429	4.19935
7	6.60143	6.41719	6.24214	6.07569	5.91732	5.76654	5.62288	5.48592	5.35526	5.23054	5.11141	4.78448	4.68474	4.58918
8	7.47199	7.23028	7.00205	6.78637	6.58238	6.38929	6.20637	6.03295	5.86842	5.71220	5.56376	5.16042	5.03857	4.92238
9	8.32548	8.01969	7.73274	7.46321	7.20979	6.97130	6.74664	6.53482	6.33493	6.14612	5.96764	5.48732	5.34359	5.20716
10	9.16224	8.78611	8.43533	8.10782	7.80169	7.51523	7.24689	6.99525	6.75902	6.53705	6.32825	5.77158	5.60654	5.45057
11	9.98259	9.53020	9.11090	8.72173	8.36009	8.02358	7.71008	7.41766	7.14457	6.88923	6.65022	6.01877	5.83323	5.65860
12	10.78685	10.25262	9.76048	9.30641	8.88687	8.49867	8.13896	7.80519	7.49506	7.20652	6.93770	6.23371	6.02864	5.83641
13	11.57534	10.95400	10.38507	9.86325	9.38384	8.94269	8.53608	8.16073	7.81369	7.49236	7.19437	6.42062	6.19711	5.98839
14	12.34837	11.63496	10.98565	10.39357	9.85268	9.35765	8.90378	8.48690	8.10336	7.74987	7.42355	6.58315	6.34233	6.11828
15	13.10625	12.29607	11.56312	10.89864	10.29498	9.74547	9.24424	8.78615	8.36669	7.98187	7.62817	6.72448	6.46753	6.22930
16	13.84926	12.93794	12.11839	11.37966	10.71225	10.10791	9.55948	9.06069	8.60608	8.19087	7.81086	6.84737	6.57546	6.32419
17	14.57771	13.56110	12.65230	11.83777	11.10590	10.44665	9.85137	9.31256	8.82371	8.37916	7.97399	6.95423	6.66850	6.40529
18	15.29187	14.16612	13.16567	12.27407	11.47726	10.76322	10.12164	9.54363	9.02155	8.54879	8.11963	7.04716	6.74870	6.47461
19	15.99203	14.75351	13.65930	12.68959	11.82760	11.05909	10.37189	9.75563	9.20141	8.70162	8.24967	7.12797	6.81785	6.53385
20	16.67846	15.32380	14.13394	13.08532	12.15812	11.33560	10.60360	9.95011	9.36492	8.83929	8.36578	7.19823	6.87746	6.58449
25	19.91393	17.93554	16.24696	14.79864	13.55036	12.46933	11.52876	10.70661	9.98474	9.34814	8.78432	7.43377	7.07263	6.74649
30	22.84438	20.18845	17.98371	16.14107	14.59072	13.27767	12.15841	11.19828	10.36961	9.65011	9.02181	7.55088	7.16555	6.82039
35	25.49859	22.13184	19.41120	17.19290	15.36814	13.85401	12.58693	11.51784	10.60857	9.82932	9.15656	7.60910	7.20979	6.85409
40	27.90259	23.80822	20.58448	18.01704	15.94907	14.26493	12.87858	11.72552	10.75696	9.93567	9.23303	7.63805	7.23086	6.86946