# APPENDIX E

# CONTINUOUS-FLOW, CONTINUOUS-COMPOUNDING INTEREST FACTORS

Effective interest rate of 5%; r = 4.879%

| N | (Ā/P,4.879,N) | (P/Ā,4.879,N) | (Ā/F,4.879,N) | (F/Ā,4.879,N) | N |
|---|---|---|---|---|---|
| 1 | 1.02459 | 0.97600 | 0.97580 | 1.02480 | 1 |
| 2 | 0.52479 | 1.90552 | 0.47600 | 2.10083 | 2 |
| 3 | 0.35832 | 2.79078 | 0.30953 | 3.23067 | 3 |
| 4 | 0.27519 | 3.63388 | 0.22640 | 4.41700 | 4 |
| 5 | 0.22539 | 4.43684 | 0.17660 | 5.66265 | 5 |
| 6 | 0.19225 | 5.20155 | 0.14346 | 6.97057 | 6 |
| 7 | 0.16864 | 5.92986 | 0.11985 | 8.34390 | 7 |
| 8 | 0.15098 | 6.62348 | 0.10219 | 9.78589 | 8 |
| 9 | 0.13729 | 7.28408 | 0.08850 | 11.29998 | 9 |
| 10 | 0.12637 | 7.91321 | 0.07758 | 12.88977 | 10 |
| 11 | 0.11748 | 8.51239 | 0.06869 | 14.55905 | 11 |
| 12 | 0.11010 | 9.08304 | 0.06131 | 16.31180 | 12 |
| 13 | 0.10388 | 9.62651 | 0.05509 | 18.15219 | 13 |
| 14 | 0.09858 | 10.14411 | 0.04979 | 20.08459 | 14 |
| 15 | 0.09401 | 10.63705 | 0.04522 | 22.11361 | 15 |
| 16 | 0.09004 | 11.10652 | 0.04125 | 24.24408 | 16 |
| 17 | 0.08655 | 11.55364 | 0.03776 | 26.48108 | 17 |
| 18 | 0.08348 | 11.97947 | 0.03469 | 28.82993 | 18 |
| 19 | 0.08074 | 12.38501 | 0.03195 | 31.29621 | 19 |
| 20 | 0.07830 | 12.77125 | 0.02951 | 33.88582 | 20 |
| 21 | 0.07611 | 13.13909 | 0.02732 | 36.60490 | 21 |
| 22 | 0.07413 | 13.48942 | 0.02534 | 39.45993 | 22 |
| 23 | 0.07234 | 13.82307 | 0.02355 | 42.45772 | 23 |
| 24 | 0.07072 | 14.14083 | 0.02193 | 45.60540 | 24 |
| 25 | 0.06924 | 14.44345 | 0.02045 | 48.91045 | 25 |
| 26 | 0.06788 | 14.73167 | 0.01909 | 52.38076 | 26 |
| 27 | 0.06664 | 15.00616 | 0.01785 | 56.02459 | 27 |
| 28 | 0.06550 | 15.26758 | 0.01671 | 59.85061 | 28 |
| 29 | 0.06445 | 15.51655 | 0.01566 | 63.86792 | 29 |
| 30 | 0.06348 | 15.75367 | 0.01469 | 68.08611 | 30 |
| 31 | 0.06258 | 15.97949 | 0.01379 | 72.51520 | 31 |
| 32 | 0.06175 | 16.19456 | 0.01296 | 77.16574 | 32 |
| 33 | 0.06098 | 16.39939 | 0.01219 | 82.04881 | 33 |
| 34 | 0.06026 | 16.59447 | 0.01147 | 87.17603 | 34 |
| 35 | 0.05959 | 16.78026 | 0.01080 | 92.55962 | 35 |
| 40 | 0.05687 | 17.58462 | 0.00808 | 123.79468 | 40 |
| 45 | 0.05490 | 18.21485 | 0.00611 | 163.65939 | 45 |
| 50 | 0.05345 | 18.70866 | 0.00466 | 214.53793 | 50 |

Effective interest rate of 8%; r = 7.696%

| N | (Ā/P,7.696,N) | (P/Ā,7.696,N) | (Ā/F,7.696,N) | (F/Ā,7.696,N) | N |
|---|---|---|---|---|---|
| 1 | 1.03897 | 0.96249 | 0.96201 | 1.03949 | 1 |
| 2 | 0.53947 | 1.85368 | 0.46251 | 2.16213 | 2 |
| 3 | 0.37329 | 2.67886 | 0.29633 | 3.37459 | 3 |
| 4 | 0.29045 | 3.44292 | 0.21349 | 4.68403 | 4 |
| 5 | 0.24094 | 4.15038 | 0.16398 | 6.09824 | 5 |
| 6 | 0.20810 | 4.80544 | 0.13114 | 7.62558 | 6 |
| 7 | 0.18478 | 5.41197 | 0.10782 | 9.27510 | 7 |
| 8 | 0.16740 | 5.97358 | 0.09044 | 11.05659 | 8 |
| 9 | 0.15400 | 6.49359 | 0.07704 | 12.98059 | 9 |
| 10 | 0.14337 | 6.97507 | 0.06641 | 15.05850 | 10 |
| 11 | 0.13475 | 7.42090 | 0.05779 | 17.30265 | 11 |
| 12 | 0.12765 | 7.83370 | 0.05069 | 19.72633 | 12 |
| 13 | 0.12171 | 8.21592 | 0.04475 | 22.34390 | 13 |
| 14 | 0.11669 | 8.56983 | 0.03973 | 25.17088 | 14 |
| 15 | 0.11239 | 8.89752 | 0.03543 | 28.22401 | 15 |
| 16 | 0.10868 | 9.20094 | 0.03172 | 31.52138 | 16 |
| 17 | 0.10546 | 9.48189 | 0.02850 | 35.08254 | 17 |
| 18 | 0.10265 | 9.74203 | 0.02569 | 38.92859 | 18 |
| 19 | 0.10017 | 9.98289 | 0.02321 | 43.08232 | 19 |
| 20 | 0.09798 | 10.20592 | 0.02102 | 47.56835 | 20 |
| 21 | 0.09604 | 10.41242 | 0.01908 | 52.41325 | 21 |
| 22 | 0.09431 | 10.60363 | 0.01735 | 57.64574 | 22 |
| 23 | 0.09276 | 10.78067 | 0.01580 | 63.29682 | 23 |
| 24 | 0.09137 | 10.94460 | 0.01441 | 69.39998 | 24 |
| 25 | 0.09012 | 11.09639 | 0.01316 | 75.99138 | 25 |
| 26 | 0.08899 | 11.23694 | 0.01203 | 83.11010 | 26 |
| 27 | 0.08797 | 11.36707 | 0.01101 | 90.79830 | 27 |
| 28 | 0.08705 | 11.48756 | 0.01009 | 99.10154 | 28 |
| 29 | 0.08621 | 11.59913 | 0.00925 | 108.06904 | 29 |
| 30 | 0.08545 | 11.70244 | 0.00849 | 117.75393 | 30 |
| 31 | 0.08476 | 11.79809 | 0.00780 | 128.21360 | 31 |
| 32 | 0.08413 | 11.88666 | 0.00717 | 139.51003 | 32 |
| 33 | 0.08355 | 11.96866 | 0.00659 | 151.71016 | 33 |
| 34 | 0.08302 | 12.04460 | 0.00606 | 164.88629 | 34 |
| 35 | 0.08254 | 12.11490 | 0.00558 | 179.11650 | 35 |
| 40 | 0.08067 | 12.39562 | 0.00371 | 269.27776 | 40 |
| 45 | 0.07945 | 12.58668 | 0.00249 | 401.75356 | 45 |
| 50 | 0.07864 | 12.71671 | 0.00168 | 596.40295 | 50 |

Effective interest rate of 9%; r = 8.618%

| N | (Ā/P,8.618,N) | (P/Ā,8.618,N) | (Ā/F,8.618,N) | (F/Ā,8.618,N) | N |
|---|---|---|---|---|---|
| 1 | 1.04371 | 0.95812 | 0.95753 | 1.04435 | 1 |
| 2 | 0.54433 | 1.83713 | 0.45815 | 2.18270 | 2 |
| 3 | 0.37828 | 2.64356 | 0.29210 | 3.42351 | 3 |
| 4 | 0.29556 | 3.38340 | 0.20938 | 4.77599 | 4 |
| 5 | 0.24618 | 4.06215 | 0.16000 | 6.25019 | 5 |
| 6 | 0.21345 | 4.68486 | 0.12727 | 7.85708 | 6 |
| 7 | 0.19025 | 5.25615 | 0.10407 | 9.60859 | 7 |
| 8 | 0.17300 | 5.78026 | 0.08682 | 11.51775 | 8 |
| 9 | 0.15972 | 6.26110 | 0.07354 | 13.59873 | 9 |
| 10 | 0.14920 | 6.70224 | 0.06302 | 15.86700 | 10 |
| 11 | 0.14071 | 7.10695 | 0.05453 | 18.33943 | 11 |
| 12 | 0.13372 | 7.47824 | 0.04754 | 21.03438 | 12 |
| 13 | 0.12790 | 7.81888 | 0.04172 | 23.97188 | 13 |
| 14 | 0.12298 | 8.13139 | 0.03680 | 27.17376 | 14 |
| 15 | 0.11879 | 8.41810 | 0.03261 | 30.66382 | 15 |
| 16 | 0.11519 | 8.68113 | 0.02901 | 34.46800 | 16 |
| 17 | 0.11208 | 8.92244 | 0.02590 | 38.61456 | 17 |
| 18 | 0.10936 | 9.14383 | 0.02318 | 43.13432 | 18 |
| 19 | 0.10699 | 9.34693 | 0.02081 | 48.06088 | 19 |
| 20 | 0.10490 | 9.53327 | 0.01872 | 53.43083 | 20 |
| 21 | 0.10305 | 9.70422 | 0.01687 | 59.28409 | 21 |
| 22 | 0.10141 | 9.86106 | 0.01523 | 65.66417 | 22 |
| 23 | 0.09995 | 10.00494 | 0.01377 | 72.61846 | 23 |
| 24 | 0.09865 | 10.13695 | 0.01247 | 80.19866 | 24 |
| 25 | 0.09748 | 10.25805 | 0.01130 | 88.46110 | 25 |
| 26 | 0.09644 | 10.36916 | 0.01026 | 97.46717 | 26 |
| 27 | 0.09550 | 10.47109 | 0.00932 | 107.28382 | 27 |
| 28 | 0.09466 | 10.56460 | 0.00848 | 117.98399 | 28 |
| 29 | 0.09389 | 10.65039 | 0.00771 | 129.64720 | 29 |
| 30 | 0.09320 | 10.72910 | 0.00702 | 142.36012 | 30 |
| 31 | 0.09258 | 10.80131 | 0.00640 | 156.21725 | 31 |
| 32 | 0.09202 | 10.86756 | 0.00584 | 171.32155 | 32 |
| 33 | 0.09151 | 10.92834 | 0.00533 | 187.78527 | 33 |
| 34 | 0.09104 | 10.98410 | 0.00486 | 205.73077 | 34 |
| 35 | 0.09062 | 11.03525 | 0.00444 | 225.29141 | 35 |
| 40 | 0.08901 | 11.23422 | 0.00283 | 352.89295 | 40 |
| 45 | 0.08800 | 11.36354 | 0.00182 | 549.22600 | 45 |
| 50 | 0.08735 | 11.44759 | 0.00117 | 851.31220 | 50 |

Effective interest rate of 10%; $r = 9.531\%$

| N | $(\bar{A}/P, 9.531, N)$ | $(P/\bar{A}, 9.531, N)$ | $(\bar{A}/F, 9.531, N)$ | $(F/\bar{A}, 9.531, N)$ | N |
|---|---|---|---|---|---|
| 1 | 1.04841 | 0.95382 | 0.95310 | 1.04921 | 1 |
| 2 | 0.54917 | 1.82094 | 0.45386 | 2.20333 | 2 |
| 3 | 0.38326 | 2.60922 | 0.28795 | 3.47287 | 3 |
| 4 | 0.30068 | 3.32584 | 0.20537 | 4.86936 | 4 |
| 5 | 0.25143 | 3.97732 | 0.15612 | 6.40550 | 5 |
| 6 | 0.21884 | 4.56957 | 0.12353 | 8.09526 | 6 |
| 7 | 0.19577 | 5.10798 | 0.10046 | 9.95399 | 7 |
| 8 | 0.17865 | 5.59744 | 0.08334 | 11.99859 | 8 |
| 9 | 0.16550 | 6.04241 | 0.07019 | 14.24765 | 9 |
| 10 | 0.15511 | 6.44692 | 0.05980 | 16.72162 | 10 |
| 11 | 0.14674 | 6.81466 | 0.05143 | 19.44299 | 11 |
| 12 | 0.13988 | 7.14897 | 0.04457 | 22.43649 | 12 |
| 13 | 0.13418 | 7.45289 | 0.03887 | 25.72934 | 13 |
| 14 | 0.12938 | 7.72918 | 0.03407 | 29.35147 | 14 |
| 15 | 0.12531 | 7.98035 | 0.03000 | 33.33582 | 15 |
| 16 | 0.12182 | 8.20869 | 0.02651 | 37.71860 | 16 |
| 17 | 0.11882 | 8.41627 | 0.02351 | 42.53966 | 17 |
| 18 | 0.11621 | 8.60498 | 0.02090 | 47.84282 | 18 |
| 19 | 0.11394 | 8.77653 | 0.01863 | 53.67630 | 19 |
| 20 | 0.11195 | 8.93249 | 0.01664 | 60.09313 | 20 |
| 21 | 0.11020 | 9.07427 | 0.01489 | 67.15163 | 21 |
| 22 | 0.10866 | 9.20316 | 0.01335 | 74.91599 | 22 |
| 23 | 0.10729 | 9.32034 | 0.01198 | 83.45678 | 23 |
| 24 | 0.10608 | 9.42686 | 0.01077 | 92.85164 | 24 |
| 25 | 0.10500 | 9.52370 | 0.00969 | 103.18600 | 25 |
| 26 | 0.10404 | 9.61173 | 0.00873 | 114.55378 | 26 |
| 27 | 0.10318 | 9.69176 | 0.00787 | 127.05834 | 27 |
| 28 | 0.10241 | 9.76452 | 0.00710 | 140.81336 | 28 |
| 29 | 0.10172 | 9.83066 | 0.00641 | 155.94387 | 29 |
| 30 | 0.10110 | 9.89079 | 0.00579 | 172.58743 | 30 |
| 31 | 0.10055 | 9.94545 | 0.00524 | 190.89535 | 31 |
| 32 | 0.10005 | 9.99515 | 0.00474 | 211.03405 | 32 |
| 33 | 0.09960 | 10.04032 | 0.00429 | 233.18662 | 33 |
| 34 | 0.09919 | 10.08139 | 0.00388 | 257.55444 | 34 |
| 35 | 0.09883 | 10.11872 | 0.00352 | 284.35904 | 35 |
| 40 | 0.09746 | 10.26026 | 0.00215 | 464.36817 | 40 |
| 45 | 0.09664 | 10.34813 | 0.00133 | 754.27441 | 45 |
| 50 | 0.09613 | 10.40270 | 0.00082 | 1221.17089 | 50 |

Effective interest rate of 11%; $r = 10.436\%$

| N | $(\bar{A}/P, 10.436, N)$ | $(P/\bar{A}, 10.436, N)$ | $(\bar{A}/F, 10.436, N)$ | $(F/\bar{A}, 10.436, N)$ | N |
|---|---|---|---|---|---|
| 1 | 1.05309 | 0.94959 | 0.94873 | 1.05404 | 1 |
| 2 | 0.55399 | 1.80507 | 0.44963 | 2.22403 | 2 |
| 3 | 0.38823 | 2.57578 | 0.28387 | 3.52272 | 3 |
| 4 | 0.30580 | 3.27011 | 0.20144 | 4.96426 | 4 |
| 5 | 0.25670 | 3.89564 | 0.15234 | 6.56437 | 5 |
| 6 | 0.22426 | 4.45917 | 0.11990 | 8.34050 | 6 |
| 7 | 0.20133 | 4.96686 | 0.09697 | 10.31200 | 7 |
| 8 | 0.18436 | 5.42424 | 0.08000 | 12.50036 | 8 |
| 9 | 0.17134 | 5.83629 | 0.06698 | 14.92944 | 9 |
| 10 | 0.16110 | 6.20751 | 0.05674 | 17.62572 | 10 |
| 11 | 0.15286 | 6.54194 | 0.04850 | 20.61860 | 11 |
| 12 | 0.14613 | 6.84323 | 0.04177 | 23.94069 | 12 |
| 13 | 0.14055 | 7.11466 | 0.03619 | 27.62820 | 13 |
| 14 | 0.13588 | 7.35919 | 0.03152 | 31.72135 | 14 |
| 15 | 0.13193 | 7.57949 | 0.02757 | 36.26474 | 15 |
| 16 | 0.12857 | 7.77796 | 0.02421 | 41.30791 | 16 |
| 17 | 0.12568 | 7.95676 | 0.02132 | 46.90582 | 17 |
| 18 | 0.12319 | 8.11784 | 0.01883 | 53.11950 | 18 |
| 19 | 0.12102 | 8.26296 | 0.01666 | 60.01669 | 19 |
| 20 | 0.11914 | 8.39370 | 0.01478 | 67.67257 | 20 |
| 21 | 0.11749 | 8.51148 | 0.01313 | 76.17059 | 21 |
| 22 | 0.11604 | 8.61759 | 0.01168 | 85.60340 | 22 |
| 23 | 0.11477 | 8.71318 | 0.01041 | 96.07381 | 23 |
| 24 | 0.11365 | 8.79930 | 0.00929 | 107.69598 | 24 |
| 25 | 0.11265 | 8.87689 | 0.00829 | 120.59658 | 25 |
| 26 | 0.11177 | 8.94678 | 0.00741 | 134.91624 | 26 |
| 27 | 0.11099 | 9.00975 | 0.00663 | 150.81107 | 27 |
| 28 | 0.11030 | 9.06649 | 0.00594 | 168.45433 | 28 |
| 29 | 0.10968 | 9.11759 | 0.00532 | 188.03834 | 29 |
| 30 | 0.10913 | 9.16364 | 0.00477 | 209.77660 | 30 |
| 31 | 0.10864 | 9.20512 | 0.00428 | 233.90607 | 31 |
| 32 | 0.10820 | 9.24249 | 0.00384 | 260.68977 | 32 |
| 33 | 0.10780 | 9.27615 | 0.00344 | 290.41969 | 33 |
| 34 | 0.10745 | 9.30648 | 0.00309 | 323.41989 | 34 |
| 35 | 0.10714 | 9.33381 | 0.00278 | 360.05012 | 35 |
| 40 | 0.10599 | 9.43480 | 0.00163 | 613.26972 | 40 |
| 45 | 0.10532 | 9.49473 | 0.00096 | 1039.95943 | 45 |
| 50 | 0.10493 | 9.53030 | 0.00057 | 1758.95636 | 50 |

Effective interest rate of 12%; r = 11.333%

| N | (Ā/P,11.333,N) | (P/Ā,11.333,N) | (Ā/F,11.333,N) | (F/Ā,11.333,N) | N |
|---|---|---|---|---|---|
| 1 | 1.05774 | 0.94542 | 0.94441 | 1.05887 | 1 |
| 2 | 0.55880 | 1.78954 | 0.44547 | 2.24480 | 2 |
| 3 | 0.39320 | 2.54322 | 0.27987 | 3.57305 | 3 |
| 4 | 0.31093 | 3.21614 | 0.19760 | 5.06069 | 4 |
| 5 | 0.26199 | 3.81697 | 0.14866 | 6.72684 | 5 |
| 6 | 0.22970 | 4.35342 | 0.11637 | 8.59294 | 6 |
| 7 | 0.20694 | 4.83239 | 0.09361 | 10.68298 | 7 |
| 8 | 0.19011 | 5.26005 | 0.07678 | 13.02382 | 8 |
| 9 | 0.17725 | 5.64188 | 0.06392 | 15.64556 | 9 |
| 10 | 0.16715 | 5.98280 | 0.05382 | 18.58192 | 10 |
| 11 | 0.15905 | 6.28720 | 0.04572 | 21.87065 | 11 |
| 12 | 0.15246 | 6.55898 | 0.03913 | 25.55402 | 12 |
| 13 | 0.14702 | 6.80164 | 0.03369 | 29.67941 | 13 |
| 14 | 0.14248 | 7.01830 | 0.02915 | 34.29985 | 14 |
| 15 | 0.13866 | 7.21175 | 0.02533 | 39.47475 | 15 |
| 16 | 0.13542 | 7.38447 | 0.02209 | 45.27065 | 16 |
| 17 | 0.13265 | 7.53868 | 0.01932 | 51.76206 | 17 |
| 18 | 0.13027 | 7.67637 | 0.01694 | 59.03245 | 18 |
| 19 | 0.12822 | 7.79931 | 0.01489 | 67.17530 | 19 |
| 20 | 0.12644 | 7.90908 | 0.01311 | 76.29530 | 20 |
| 21 | 0.12489 | 8.00709 | 0.01156 | 86.50972 | 21 |
| 22 | 0.12354 | 8.09459 | 0.01021 | 97.94988 | 22 |
| 23 | 0.12236 | 8.17272 | 0.00903 | 110.76288 | 23 |
| 24 | 0.12132 | 8.24248 | 0.00799 | 125.11346 | 24 |
| 25 | 0.12041 | 8.30476 | 0.00708 | 141.18612 | 25 |
| 26 | 0.11961 | 8.36037 | 0.00628 | 159.18753 | 26 |
| 27 | 0.11891 | 8.41002 | 0.00558 | 179.34914 | 27 |
| 28 | 0.11828 | 8.45436 | 0.00495 | 201.93017 | 28 |
| 29 | 0.11773 | 8.49394 | 0.00440 | 227.22095 | 29 |
| 30 | 0.11724 | 8.52928 | 0.00391 | 255.54667 | 30 |
| 31 | 0.11681 | 8.56084 | 0.00348 | 287.27151 | 31 |
| 32 | 0.11643 | 8.58901 | 0.00310 | 322.80338 | 32 |
| 33 | 0.11609 | 8.61416 | 0.00276 | 362.59913 | 33 |
| 34 | 0.11579 | 8.63662 | 0.00246 | 407.17043 | 34 |
| 35 | 0.11552 | 8.65668 | 0.00219 | 457.09035 | 35 |
| 40 | 0.11456 | 8.72897 | 0.00123 | 812.28151 | 40 |
| 45 | 0.11403 | 8.76998 | 0.00070 | 1438.25382 | 45 |
| 50 | 0.11372 | 8.79326 | 0.00039 | 2541.43817 | 50 |

Effective interest rate of 13%; r = 12.222%

| N | (Ā/P,12.222,N) | (P/Ā,12.222,N) | (Ā/F,12.222,N) | (F/Ā,12.222,N) | N |
|---|---|---|---|---|---|
| 1 | 1.06235 | 0.94131 | 0.94013 | 1.06368 | 1 |
| 2 | 0.56360 | 1.77432 | 0.44138 | 2.26564 | 2 |
| 3 | 0.39817 | 2.51149 | 0.27595 | 3.62385 | 3 |
| 4 | 0.31607 | 3.16386 | 0.19385 | 5.15864 | 4 |
| 5 | 0.26730 | 3.74118 | 0.14508 | 6.89296 | 5 |
| 6 | 0.23518 | 4.25207 | 0.11296 | 8.85274 | 6 |
| 7 | 0.21258 | 4.70419 | 0.09036 | 11.06729 | 7 |
| 8 | 0.19591 | 5.10430 | 0.07369 | 13.56975 | 8 |
| 9 | 0.18320 | 5.45837 | 0.06098 | 16.39753 | 9 |
| 10 | 0.17326 | 5.77171 | 0.05104 | 19.59293 | 10 |
| 11 | 0.16532 | 6.04900 | 0.04310 | 23.20374 | 11 |
| 12 | 0.15887 | 6.29439 | 0.03665 | 27.28397 | 12 |
| 13 | 0.15357 | 6.51155 | 0.03135 | 31.89463 | 13 |
| 14 | 0.14917 | 6.70373 | 0.02695 | 37.10470 | 14 |
| 15 | 0.14548 | 6.87379 | 0.02326 | 42.99208 | 15 |
| 16 | 0.14236 | 7.02429 | 0.02014 | 49.64485 | 16 |
| 17 | 0.13971 | 7.15748 | 0.01749 | 57.16249 | 17 |
| 18 | 0.13745 | 7.27534 | 0.01523 | 65.65744 | 18 |
| 19 | 0.13551 | 7.37965 | 0.01329 | 75.25676 | 19 |
| 20 | 0.13383 | 7.47195 | 0.01161 | 86.10402 | 20 |
| 21 | 0.13239 | 7.55364 | 0.01017 | 98.36145 | 21 |
| 22 | 0.13113 | 7.62592 | 0.00891 | 112.21238 | 22 |
| 23 | 0.13004 | 7.68989 | 0.00782 | 127.86397 | 23 |
| 24 | 0.12909 | 7.74650 | 0.00687 | 145.55030 | 24 |
| 25 | 0.12826 | 7.79660 | 0.00604 | 165.53591 | 25 |
| 26 | 0.12754 | 7.84094 | 0.00532 | 188.11970 | 26 |
| 27 | 0.12690 | 7.88017 | 0.00468 | 213.63944 | 27 |
| 28 | 0.12634 | 7.91489 | 0.00412 | 242.47681 | 28 |
| 29 | 0.12586 | 7.94562 | 0.00364 | 275.06313 | 29 |
| 30 | 0.12543 | 7.97281 | 0.00321 | 311.88575 | 30 |
| 31 | 0.12505 | 7.99687 | 0.00283 | 353.49541 | 31 |
| 32 | 0.12472 | 8.01817 | 0.00250 | 400.51443 | 32 |
| 33 | 0.12442 | 8.03701 | 0.00220 | 453.64606 | 33 |
| 34 | 0.12417 | 8.05369 | 0.00195 | 513.68494 | 34 |
| 35 | 0.12394 | 8.06845 | 0.00172 | 581.52903 | 35 |
| 40 | 0.12315 | 8.12035 | 0.00093 | 1078.33518 | 40 |
| 45 | 0.12272 | 8.14853 | 0.00050 | 1993.67914 | 45 |
| 50 | 0.12249 | 8.16382 | 0.00027 | 3680.16101 | 50 |

Effective interest rate of 14%; $r = 13.103\%$

| N | $(\bar{A}/P,13.103,N)$ | $(P/\bar{A},13.103,N)$ | $(\bar{A}/F,13.103,N)$ | $(F/\bar{A},13.103,N)$ | N |
|---|---|---|---|---|---|
| 1 | 1.06695 | 0.93726 | 0.93592 | 1.06847 | 1 |
| 2 | 0.56837 | 1.75941 | 0.43734 | 2.28653 | 2 |
| 3 | 0.40313 | 2.48059 | 0.27210 | 3.67513 | 3 |
| 4 | 0.32121 | 3.11321 | 0.19018 | 5.25812 | 4 |
| 5 | 0.27262 | 3.66814 | 0.14159 | 7.06274 | 5 |
| 6 | 0.24068 | 4.15491 | 0.10965 | 9.12001 | 6 |
| 7 | 0.21825 | 4.58191 | 0.08722 | 11.46531 | 7 |
| 8 | 0.20176 | 4.95647 | 0.07073 | 14.13895 | 8 |
| 9 | 0.18921 | 5.28503 | 0.05818 | 17.18690 | 9 |
| 10 | 0.17943 | 5.57323 | 0.04840 | 20.66157 | 10 |
| 11 | 0.17164 | 5.82605 | 0.04061 | 24.62271 | 11 |
| 12 | 0.16535 | 6.04782 | 0.03432 | 29.13841 | 12 |
| 13 | 0.16020 | 6.24235 | 0.02917 | 34.28631 | 13 |
| 14 | 0.15593 | 6.41299 | 0.02490 | 40.15494 | 14 |
| 15 | 0.15238 | 6.56267 | 0.02135 | 46.84518 | 15 |
| 16 | 0.14939 | 6.69398 | 0.01836 | 54.47207 | 16 |
| 17 | 0.14686 | 6.80915 | 0.01583 | 63.16674 | 17 |
| 18 | 0.14471 | 6.91019 | 0.01368 | 73.07868 | 18 |
| 19 | 0.14288 | 6.99881 | 0.01185 | 84.37832 | 19 |
| 20 | 0.14131 | 7.07655 | 0.01028 | 97.25992 | 20 |
| 21 | 0.13996 | 7.14475 | 0.00893 | 111.94498 | 21 |
| 22 | 0.13880 | 7.20457 | 0.00777 | 128.68597 | 22 |
| 23 | 0.13780 | 7.25704 | 0.00677 | 147.77073 | 23 |
| 24 | 0.13693 | 7.30307 | 0.00590 | 169.52740 | 24 |
| 25 | 0.13618 | 7.34344 | 0.00515 | 194.33004 | 25 |
| 26 | 0.13552 | 7.37886 | 0.00449 | 222.60510 | 26 |
| 27 | 0.13495 | 7.40993 | 0.00392 | 254.83873 | 27 |
| 28 | 0.13446 | 7.43718 | 0.00343 | 291.58513 | 28 |
| 29 | 0.13403 | 7.46109 | 0.00300 | 333.47610 | 29 |
| 30 | 0.13365 | 7.48206 | 0.00262 | 381.23189 | 30 |
| 31 | 0.13333 | 7.50045 | 0.00230 | 435.67358 | 31 |
| 32 | 0.13304 | 7.51659 | 0.00201 | 497.73722 | 32 |
| 33 | 0.13279 | 7.53074 | 0.00176 | 568.48989 | 33 |
| 34 | 0.13257 | 7.54316 | 0.00154 | 649.14807 | 34 |
| 35 | 0.13238 | 7.55405 | 0.00135 | 741.09856 | 35 |
| 40 | 0.13173 | 7.59144 | 0.00070 | 1433.99712 | 40 |
| 45 | 0.13139 | 7.61086 | 0.00036 | 2768.12569 | 45 |
| 50 | 0.13122 | 7.62094 | 0.00019 | 5336.89863 | 50 |

Effective interest rate of 15%; $r = 13.976\%$

| N | $(\bar{A}/P,13.976,N)$ | $(P/\bar{A},13.976,N)$ | $(\bar{A}/F,13.976,N)$ | $(F/\bar{A},13.976,N)$ | N |
|---|---|---|---|---|---|
| 1 | 1.07151 | 0.93326 | 0.93175 | 1.07325 | 1 |
| 2 | 0.57313 | 1.74480 | 0.43337 | 2.30749 | 2 |
| 3 | 0.40808 | 2.45049 | 0.26832 | 3.72686 | 3 |
| 4 | 0.32636 | 3.06413 | 0.18660 | 5.35913 | 4 |
| 5 | 0.27795 | 3.59773 | 0.13819 | 7.23625 | 5 |
| 6 | 0.24620 | 4.06173 | 0.10644 | 9.39492 | 6 |
| 7 | 0.22395 | 4.46521 | 0.08419 | 11.87739 | 7 |
| 8 | 0.20764 | 4.81606 | 0.06788 | 14.73222 | 8 |
| 9 | 0.19527 | 5.12115 | 0.05551 | 18.01527 | 9 |
| 10 | 0.18565 | 5.38645 | 0.04589 | 21.79078 | 10 |
| 11 | 0.17803 | 5.61714 | 0.03827 | 26.13260 | 11 |
| 12 | 0.17189 | 5.81775 | 0.03213 | 31.12568 | 12 |
| 13 | 0.16688 | 5.99219 | 0.02712 | 36.86772 | 13 |
| 14 | 0.16276 | 6.14387 | 0.02300 | 43.47105 | 14 |
| 15 | 0.15934 | 6.27577 | 0.01958 | 51.06486 | 15 |
| 16 | 0.15648 | 6.39047 | 0.01672 | 59.79773 | 16 |
| 17 | 0.15408 | 6.49020 | 0.01432 | 69.84050 | 17 |
| 18 | 0.15205 | 6.57693 | 0.01229 | 81.38967 | 18 |
| 19 | 0.15032 | 6.65235 | 0.01056 | 94.67120 | 19 |
| 20 | 0.14886 | 6.71793 | 0.00910 | 109.94492 | 20 |
| 21 | 0.14760 | 6.77495 | 0.00784 | 127.50966 | 21 |
| 22 | 0.14653 | 6.82454 | 0.00677 | 147.70908 | 22 |
| 23 | 0.14561 | 6.86766 | 0.00585 | 170.93836 | 23 |
| 24 | 0.14482 | 6.90515 | 0.00506 | 197.65199 | 24 |
| 25 | 0.14414 | 6.93776 | 0.00438 | 228.37260 | 25 |
| 26 | 0.14355 | 6.96611 | 0.00379 | 263.70123 | 26 |
| 27 | 0.14305 | 6.99076 | 0.00329 | 304.32908 | 27 |
| 28 | 0.14261 | 7.01220 | 0.00285 | 351.05101 | 28 |
| 29 | 0.14223 | 7.03084 | 0.00247 | 404.78113 | 29 |
| 30 | 0.14190 | 7.04705 | 0.00214 | 466.57065 | 30 |
| 31 | 0.14162 | 7.06115 | 0.00186 | 537.62846 | 31 |
| 32 | 0.14137 | 7.07341 | 0.00161 | 619.34478 | 32 |
| 33 | 0.14116 | 7.08406 | 0.00140 | 713.31836 | 33 |
| 34 | 0.14098 | 7.09333 | 0.00122 | 821.38777 | 34 |
| 35 | 0.14082 | 7.10139 | 0.00106 | 945.66736 | 35 |
| 40 | 0.14028 | 7.12841 | 0.00052 | 1909.29261 | 40 |
| 45 | 0.14002 | 7.14184 | 0.00026 | 3847.46837 | 45 |
| 50 | 0.13989 | 7.14852 | 0.00013 | 7745.79424 | 50 |

Effective interest rate of 20%; $r = 18.232$

| N | (Ā/P,18.232,N) | (P/Ā,18.232,N) | (Ā/F,18.232,N) | (F/Ā,18.232,N) | N |
|---|---|---|---|---|---|
| 1 | 1.09393 | 0.91414 | 0.91161 | 1.09696 | 1 |
| 2 | 0.59669 | 1.67592 | 0.41437 | 2.41331 | 2 |
| 3 | 0.43276 | 2.31074 | 0.25044 | 3.99294 | 3 |
| 4 | 0.35214 | 2.83975 | 0.16982 | 5.88848 | 4 |
| 5 | 0.30482 | 3.28060 | 0.12250 | 8.16312 | 5 |
| 6 | 0.27412 | 3.64798 | 0.09180 | 10.89269 | 6 |
| 7 | 0.25290 | 3.95412 | 0.07058 | 14.16818 | 7 |
| 8 | 0.23757 | 4.20924 | 0.05525 | 18.09875 | 8 |
| 9 | 0.22615 | 4.42184 | 0.04383 | 22.81542 | 9 |
| 10 | 0.21744 | 4.59901 | 0.03512 | 28.47543 | 10 |
| 11 | 0.21067 | 4.74665 | 0.02835 | 35.26742 | 11 |
| 12 | 0.20535 | 4.86969 | 0.02303 | 43.41780 | 12 |
| 13 | 0.20112 | 4.97221 | 0.01880 | 53.19824 | 13 |
| 14 | 0.19772 | 5.05766 | 0.01540 | 64.93476 | 14 |
| 15 | 0.19498 | 5.12886 | 0.01266 | 79.01855 | 15 |
| 16 | 0.19275 | 5.18819 | 0.01043 | 95.91907 | 16 |
| 17 | 0.19093 | 5.23763 | 0.00861 | 116.19967 | 17 |
| 18 | 0.18944 | 5.27884 | 0.00712 | 140.53635 | 18 |
| 19 | 0.18821 | 5.31318 | 0.00589 | 169.74032 | 19 |
| 20 | 0.18720 | 5.34179 | 0.00488 | 204.78503 | 20 |
| 21 | 0.18637 | 5.36564 | 0.00405 | 246.83861 | 21 |
| 22 | 0.18568 | 5.38551 | 0.00336 | 297.30284 | 22 |
| 23 | 0.18511 | 5.40207 | 0.00279 | 357.85981 | 23 |
| 24 | 0.18464 | 5.41586 | 0.00232 | 430.52807 | 24 |
| 25 | 0.18425 | 5.42736 | 0.00193 | 517.72984 | 25 |
| 26 | 0.18393 | 5.43695 | 0.00161 | 622.37180 | 26 |
| 27 | 0.18366 | 5.44493 | 0.00134 | 747.94196 | 27 |
| 28 | 0.18343 | 5.45159 | 0.00111 | 898.62592 | 28 |
| 29 | 0.18325 | 5.45713 | 0.00093 | 1079.44638 | 29 |
| 30 | 0.18309 | 5.46175 | 0.00077 | 1296.43060 | 30 |
| 31 | 0.18296 | 5.46561 | 0.00064 | 1556.81126 | 31 |
| 32 | 0.18285 | 5.46882 | 0.00053 | 1869.26757 | 32 |
| 33 | 0.18277 | 5.47149 | 0.00045 | 2244.21456 | 33 |
| 34 | 0.18269 | 5.47372 | 0.00037 | 2694.15024 | 34 |
| 35 | 0.18263 | 5.47558 | 0.00031 | 3234.07221 | 35 |
| 40 | 0.18244 | 5.48113 | 0.00012 | 8055.50705 | 40 |
| 45 | 0.18237 | 5.48336 | 0.00005 | 20052.68640 | 45 |
| 50 | 0.18234 | 5.48426 | 0.00002 | 49905.27535 | 50 |