**Appendix. Values of  for , ,  with  and** 

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  | | |  |  | | |  |  | | |  |  | | |  |  | | |
|  |  | 0.1 | 0.05 | 0.01 |  | 0.1 | 0.05 | 0.01 |  | 0.1 | 0.05 | 0.01 |  | 0.1 | 0.05 | 0.01 |  | 0.1 | 0.05 | 0.01 |
| 3.00 |  | 3.175 | 3.197 | 3.243 |  | 3.180 | 3.202 | 3.247 |  | 3.185 | 3.206 | 3.250 |  | 3.188 | 3.210 | 3.253 |  | 3.192 | 3.213 | 3.256 |
| 3.01 |  | 3.186 | 3.208 | 3.254 |  | 3.191 | 3.213 | 3.257 |  | 3.195 | 3.217 | 3.261 |  | 3.199 | 3.220 | 3.264 |  | 3.202 | 3.223 | 3.267 |
| 3.02 |  | 3.197 | 3.219 | 3.264 |  | 3.202 | 3.224 | 3.268 |  | 3.206 | 3.228 | 3.272 |  | 3.210 | 3.231 | 3.275 |  | 3.213 | 3.234 | 3.278 |
| 3.03 |  | 3.207 | 3.230 | 3.275 |  | 3.212 | 3.234 | 3.279 |  | 3.217 | 3.238 | 3.283 |  | 3.221 | 3.242 | 3.286 |  | 3.224 | 3.245 | 3.288 |
| 3.04 |  | 3.218 | 3.240 | 3.286 |  | 3.223 | 3.245 | 3.290 |  | 3.227 | 3.249 | 3.294 |  | 3.231 | 3.253 | 3.297 |  | 3.235 | 3.256 | 3.299 |
| 3.05 |  | 3.229 | 3.251 | 3.297 |  | 3.234 | 3.256 | 3.301 |  | 3.238 | 3.260 | 3.305 |  | 3.242 | 3.263 | 3.308 |  | 3.245 | 3.267 | 3.310 |
| 3.06 |  | 3.239 | 3.262 | 3.308 |  | 3.244 | 3.267 | 3.312 |  | 3.249 | 3.271 | 3.316 |  | 3.253 | 3.274 | 3.319 |  | 3.256 | 3.277 | 3.321 |
| 3.07 |  | 3.250 | 3.273 | 3.319 |  | 3.255 | 3.277 | 3.323 |  | 3.260 | 3.281 | 3.327 |  | 3.264 | 3.285 | 3.330 |  | 3.267 | 3.288 | 3.332 |
| 3.08 |  | 3.260 | 3.283 | 3.330 |  | 3.266 | 3.288 | 3.334 |  | 3.270 | 3.292 | 3.338 |  | 3.274 | 3.296 | 3.341 |  | 3.278 | 3.299 | 3.343 |
| 3.09 |  | 3.271 | 3.294 | 3.341 |  | 3.276 | 3.299 | 3.345 |  | 3.281 | 3.303 | 3.348 |  | 3.285 | 3.307 | 3.352 |  | 3.288 | 3.310 | 3.354 |
| 3.10 |  | 3.282 | 3.305 | 3.352 |  | 3.287 | 3.310 | 3.356 |  | 3.292 | 3.314 | 3.359 |  | 3.296 | 3.318 | 3.363 |  | 3.299 | 3.321 | 3.365 |
| 3.11 |  | 3.293 | 3.316 | 3.363 |  | 3.298 | 3.320 | 3.367 |  | 3.303 | 3.325 | 3.370 |  | 3.306 | 3.328 | 3.374 |  | 3.310 | 3.331 | 3.376 |
| 3.12 |  | 3.303 | 3.326 | 3.374 |  | 3.308 | 3.331 | 3.378 |  | 3.313 | 3.335 | 3.381 |  | 3.316 | 3.339 | 3.384 |  | 3.320 | 3.342 | 3.387 |
| 3.13 |  | 3.314 | 3.337 | 3.385 |  | 3.320 | 3.342 | 3.389 |  | 3.324 | 3.346 | 3.392 |  | 3.328 | 3.350 | 3.395 |  | 3.331 | 3.353 | 3.398 |
| 3.14 |  | 3.324 | 3.348 | 3.396 |  | 3.330 | 3.353 | 3.400 |  | 3.334 | 3.357 | 3.403 |  | 3.338 | 3.361 | 3.406 |  | 3.342 | 3.364 | 3.409 |
| 3.15 |  | 3.335 | 3.359 | 3.406 |  | 3.341 | 3.364 | 3.411 |  | 3.345 | 3.368 | 3.414 |  | 3.349 | 3.371 | 3.417 |  | 3.353 | 3.375 | 3.420 |
| 3.16 |  | 3.346 | 3.370 | 3.417 |  | 3.351 | 3.375 | 3.422 |  | 3.356 | 3.379 | 3.425 |  | 3.360 | 3.382 | 3.428 |  | 3.363 | 3.385 | 3.431 |
| 3.17 |  | 3.357 | 3.380 | 3.428 |  | 3.362 | 3.385 | 3.433 |  | 3.367 | 3.389 | 3.436 |  | 3.371 | 3.393 | 3.439 |  | 3.374 | 3.396 | 3.442 |
| 3.18 |  | 3.368 | 3.391 | 3.439 |  | 3.373 | 3.396 | 3.444 |  | 3.377 | 3.400 | 3.447 |  | 3.381 | 3.404 | 3.450 |  | 3.385 | 3.407 | 3.453 |
| 3.19 |  | 3.378 | 3.402 | 3.450 |  | 3.383 | 3.407 | 3.455 |  | 3.388 | 3.411 | 3.458 |  | 3.392 | 3.415 | 3.461 |  | 3.396 | 3.418 | 3.464 |
| 3.20 |  | 3.389 | 3.412 | 3.461 |  | 3.394 | 3.417 | 3.466 |  | 3.399 | 3.422 | 3.469 |  | 3.403 | 3.426 | 3.472 |  | 3.406 | 3.429 | 3.475 |

**Appendix. (continued)**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  | | |  |  | | |  |  | | |  |  | | |  |  | | |
|  |  | 0.1 | 0.05 | 0.01 |  | 0.1 | 0.05 | 0.01 |  | 0.1 | 0.05 | 0.01 |  | 0.1 | 0.05 | 0.01 |  | 0.1 | 0.05 | 0.01 |
| 3.21 |  | 3.399 | 3.423 | 3.472 |  | 3.405 | 3.428 | 3.476 |  | 3.409 | 3.433 | 3.480 |  | 3.414 | 3.437 | 3.483 |  | 3.417 | 3.440 | 3.486 |
| 3.22 |  | 3.410 | 3.434 | 3.483 |  | 3.415 | 3.439 | 3.487 |  | 3.420 | 3.443 | 3.492 |  | 3.424 | 3.447 | 3.494 |  | 3.428 | 3.450 | 3.497 |
| 3.23 |  | 3.421 | 3.445 | 3.494 |  | 3.426 | 3.450 | 3.498 |  | 3.431 | 3.454 | 3.503 |  | 3.435 | 3.458 | 3.505 |  | 3.439 | 3.461 | 3.508 |
| 3.24 |  | 3.431 | 3.456 | 3.505 |  | 3.437 | 3.461 | 3.509 |  | 3.442 | 3.465 | 3.514 |  | 3.446 | 3.469 | 3.516 |  | 3.449 | 3.472 | 3.519 |
| 3.25 |  | 3.442 | 3.466 | 3.516 |  | 3.448 | 3.471 | 3.520 |  | 3.453 | 3.476 | 3.525 |  | 3.456 | 3.480 | 3.527 |  | 3.460 | 3.483 | 3.530 |
| 3.26 |  | 3.453 | 3.477 | 3.527 |  | 3.458 | 3.482 | 3.531 |  | 3.464 | 3.487 | 3.536 |  | 3.467 | 3.491 | 3.538 |  | 3.471 | 3.494 | 3.541 |
| 3.27 |  | 3.463 | 3.488 | 3.538 |  | 3.469 | 3.493 | 3.542 |  | 3.474 | 3.497 | 3.547 |  | 3.478 | 3.501 | 3.549 |  | 3.482 | 3.505 | 3.552 |
| 3.28 |  | 3.474 | 3.499 | 3.549 |  | 3.480 | 3.504 | 3.553 |  | 3.485 | 3.508 | 3.557 |  | 3.489 | 3.512 | 3.560 |  | 3.492 | 3.516 | 3.563 |
| 3.29 |  | 3.485 | 3.509 | 3.560 |  | 3.490 | 3.515 | 3.564 |  | 3.496 | 3.519 | 3.568 |  | 3.499 | 3.523 | 3.571 |  | 3.503 | 3.526 | 3.574 |
| 3.30 |  | 3.495 | 3.520 | 3.571 |  | 3.501 | 3.525 | 3.575 |  | 3.506 | 3.530 | 3.579 |  | 3.510 | 3.534 | 3.582 |  | 3.514 | 3.537 | 3.585 |
| 3.31 |  | 3.506 | 3.531 | 3.582 |  | 3.512 | 3.536 | 3.586 |  | 3.517 | 3.541 | 3.590 |  | 3.521 | 3.545 | 3.593 |  | 3.525 | 3.548 | 3.596 |
| 3.32 |  | 3.517 | 3.542 | 3.593 |  | 3.523 | 3.547 | 3.597 |  | 3.527 | 3.552 | 3.601 |  | 3.532 | 3.555 | 3.604 |  | 3.535 | 3.559 | 3.607 |
| 3.33 |  | 3.528 | 3.553 | 3.604 |  | 3.533 | 3.558 | 3.608 |  | 3.538 | 3.562 | 3.612 |  | 3.542 | 3.566 | 3.615 |  | 3.546 | 3.570 | 3.618 |
| 3.34 |  | 3.538 | 3.563 | 3.615 |  | 3.544 | 3.569 | 3.619 |  | 3.549 | 3.573 | 3.623 |  | 3.553 | 3.577 | 3.626 |  | 3.557 | 3.581 | 3.629 |
| 3.35 |  | 3.549 | 3.574 | 3.626 |  | 3.555 | 3.580 | 3.630 |  | 3.560 | 3.584 | 3.634 |  | 3.564 | 3.588 | 3.637 |  | 3.568 | 3.591 | 3.640 |
| 3.36 |  | 3.560 | 3.585 | 3.637 |  | 3.566 | 3.590 | 3.641 |  | 3.571 | 3.595 | 3.645 |  | 3.575 | 3.599 | 3.649 |  | 3.579 | 3.602 | 3.652 |
| 3.37 |  | 3.570 | 3.596 | 3.648 |  | 3.576 | 3.601 | 3.652 |  | 3.581 | 3.606 | 3.656 |  | 3.586 | 3.610 | 3.660 |  | 3.589 | 3.613 | 3.663 |
| 3.38 |  | 3.581 | 3.607 | 3.659 |  | 3.587 | 3.612 | 3.663 |  | 3.592 | 3.617 | 3.667 |  | 3.596 | 3.621 | 3.671 |  | 3.600 | 3.624 | 3.674 |
| 3.39 |  | 3.592 | 3.617 | 3.670 |  | 3.598 | 3.623 | 3.674 |  | 3.603 | 3.627 | 3.678 |  | 3.607 | 3.631 | 3.682 |  | 3.611 | 3.635 | 3.685 |
| 3.40 |  | 3.602 | 3.628 | 3.681 |  | 3.383 | 3.407 | 3.455 |  | 3.388 | 3.411 | 3.458 |  | 3.392 | 3.415 | 3.461 |  | 3.622 | 3.646 | 3.696 |

**Appendix. (continued)**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  | | |  |  | | |  |  | | |  |  | | |  |  | | |
|  |  | 0.1 | 0.05 | 0.01 |  | 0.1 | 0.05 | 0.01 |  | 0.1 | 0.05 | 0.01 |  | 0.1 | 0.05 | 0.01 |  | 0.1 | 0.05 | 0.01 |
| 3.41 |  | 3.613 | 3.639 | 3.692 |  | 3.619 | 3.644 | 3.696 |  | 3.624 | 3.649 | 3.700 |  | 3.629 | 3.653 | 3.704 |  | 3.632 | 3.657 | 3.707 |
| 3.42 |  | 3.624 | 3.650 | 3.703 |  | 3.630 | 3.655 | 3.707 |  | 3.635 | 3.660 | 3.711 |  | 3.640 | 3.664 | 3.715 |  | 3.643 | 3.668 | 3.718 |
| 3.43 |  | 3.635 | 3.661 | 3.714 |  | 3.641 | 3.666 | 3.718 |  | 3.646 | 3.671 | 3.722 |  | 3.650 | 3.675 | 3.726 |  | 3.654 | 3.678 | 3.729 |
| 3.44 |  | 3.645 | 3.671 | 3.725 |  | 3.651 | 3.677 | 3.729 |  | 3.656 | 3.682 | 3.733 |  | 3.661 | 3.686 | 3.737 |  | 3.665 | 3.689 | 3.740 |
| 3.45 |  | 3.656 | 3.682 | 3.736 |  | 3.662 | 3.688 | 3.740 |  | 3.667 | 3.692 | 3.744 |  | 3.672 | 3.697 | 3.748 |  | 3.676 | 3.700 | 3.751 |
| 3.46 |  | 3.667 | 3.693 | 3.747 |  | 3.673 | 3.699 | 3.751 |  | 3.678 | 3.703 | 3.755 |  | 3.682 | 3.707 | 3.759 |  | 3.686 | 3.711 | 3.762 |
| 3.47 |  | 3.678 | 3.704 | 3.758 |  | 3.684 | 3.709 | 3.762 |  | 3.689 | 3.714 | 3.766 |  | 3.693 | 3.718 | 3.770 |  | 3.697 | 3.722 | 3.773 |
| 3.48 |  | 3.688 | 3.715 | 3.769 |  | 3.694 | 3.720 | 3.773 |  | 3.699 | 3.725 | 3.777 |  | 3.704 | 3.729 | 3.781 |  | 3.708 | 3.733 | 3.784 |
| 3.49 |  | 3.699 | 3.725 | 3.780 |  | 3.705 | 3.731 | 3.784 |  | 3.710 | 3.736 | 3.788 |  | 3.715 | 3.740 | 3.792 |  | 3.719 | 3.744 | 3.795 |
| 3.50 |  | 3.710 | 3.736 | 3.791 |  | 3.716 | 3.742 | 3.795 |  | 3.721 | 3.747 | 3.800 |  | 3.726 | 3.751 | 3.803 |  | 3.730 | 3.755 | 3.806 |
| 3.51 |  | 3.720 | 3.747 | 3.802 |  | 3.727 | 3.753 | 3.806 |  | 3.732 | 3.758 | 3.811 |  | 3.737 | 3.762 | 3.814 |  | 3.740 | 3.765 | 3.817 |
| 3.52 |  | 3.731 | 3.758 | 3.813 |  | 3.737 | 3.764 | 3.817 |  | 3.743 | 3.768 | 3.822 |  | 3.747 | 3.773 | 3.825 |  | 3.751 | 3.776 | 3.828 |
| 3.53 |  | 3.742 | 3.769 | 3.824 |  | 3.748 | 3.774 | 3.829 |  | 3.754 | 3.779 | 3.833 |  | 3.758 | 3.783 | 3.836 |  | 3.762 | 3.787 | 3.839 |
| 3.54 |  | 3.753 | 3.780 | 3.835 |  | 3.759 | 3.785 | 3.840 |  | 3.765 | 3.790 | 3.844 |  | 3.769 | 3.794 | 3.847 |  | 3.773 | 3.798 | 3.851 |
| 3.55 |  | 3.763 | 3.790 | 3.846 |  | 3.769 | 3.796 | 3.851 |  | 3.775 | 3.801 | 3.855 |  | 3.779 | 3.805 | 3.858 |  | 3.783 | 3.809 | 3.862 |
| 3.56 |  | 3.774 | 3.801 | 3.857 |  | 3.780 | 3.807 | 3.862 |  | 3.786 | 3.812 | 3.866 |  | 3.790 | 3.816 | 3.869 |  | 3.794 | 3.820 | 3.873 |
| 3.57 |  | 3.785 | 3.812 | 3.868 |  | 3.791 | 3.818 | 3.873 |  | 3.796 | 3.823 | 3.877 |  | 3.801 | 3.827 | 3.880 |  | 3.805 | 3.831 | 3.884 |
| 3.58 |  | 3.795 | 3.823 | 3.879 |  | 3.802 | 3.829 | 3.884 |  | 3.807 | 3.834 | 3.888 |  | 3.812 | 3.838 | 3.892 |  | 3.816 | 3.842 | 3.895 |
| 3.59 |  | 3.806 | 3.834 | 3.890 |  | 3.813 | 3.839 | 3.895 |  | 3.818 | 3.844 | 3.899 |  | 3.823 | 3.849 | 3.903 |  | 3.827 | 3.853 | 3.906 |
| 3.60 |  | 3.817 | 3.845 | 3.901 |  | 3.823 | 3.850 | 3.906 |  | 3.829 | 3.855 | 3.910 |  | 3.833 | 3.860 | 3.914 |  | 3.838 | 3.863 | 3.917 |

**Appendix. (continued)**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  | | |  |  | | |  |  | | |  |  | | |  |  | | |
|  |  | 0.1 | 0.05 | 0.01 |  | 0.1 | 0.05 | 0.01 |  | 0.1 | 0.05 | 0.01 |  | 0.1 | 0.05 | 0.01 |  | 0.1 | 0.05 | 0.01 |
| 3.61 |  | 3.828 | 3.855 | 3.912 |  | 3.834 | 3.861 | 3.917 |  | 3.839 | 3.866 | 3.921 |  | 3.844 | 3.871 | 3.925 |  | 3.848 | 3.874 | 3.928 |
| 3.62 |  | 3.838 | 3.866 | 3.923 |  | 3.845 | 3.872 | 3.928 |  | 3.850 | 3.877 | 3.932 |  | 3.855 | 3.881 | 3.936 |  | 3.859 | 3.885 | 3.939 |
| 3.63 |  | 3.849 | 3.877 | 3.934 |  | 3.856 | 3.883 | 3.939 |  | 3.861 | 3.888 | 3.943 |  | 3.866 | 3.892 | 3.947 |  | 3.870 | 3.896 | 3.950 |
| 3.64 |  | 3.860 | 3.888 | 3.945 |  | 3.866 | 3.894 | 3.950 |  | 3.872 | 3.899 | 3.954 |  | 3.877 | 3.903 | 3.958 |  | 3.881 | 3.907 | 3.961 |
| 3.65 |  | 3.871 | 3.899 | 3.956 |  | 3.877 | 3.905 | 3.961 |  | 3.883 | 3.910 | 3.965 |  | 3.887 | 3.914 | 3.969 |  | 3.892 | 3.918 | 3.972 |
| 3.66 |  | 3.881 | 3.910 | 3.967 |  | 3.888 | 3.915 | 3.972 |  | 3.893 | 3.920 | 3.976 |  | 3.898 | 3.925 | 3.980 |  | 3.902 | 3.929 | 3.983 |
| 3.67 |  | 3.892 | 3.920 | 3.978 |  | 3.899 | 3.926 | 3.983 |  | 3.904 | 3.931 | 3.987 |  | 3.909 | 3.936 | 3.991 |  | 3.913 | 3.940 | 3.995 |
| 3.68 |  | 3.903 | 3.931 | 3.989 |  | 3.909 | 3.937 | 3.994 |  | 3.915 | 3.942 | 3.998 |  | 3.920 | 3.947 | 4.002 |  | 3.924 | 3.951 | 4.006 |
| 3.69 |  | 3.914 | 3.942 | 4.000 |  | 3.920 | 3.948 | 4.005 |  | 3.926 | 3.953 | 4.010 |  | 3.931 | 3.958 | 4.013 |  | 3.935 | 3.961 | 4.017 |
| 3.70 |  | 3.924 | 3.953 | 4.011 |  | 3.931 | 3.959 | 4.016 |  | 3.936 | 3.964 | 4.021 |  | 3.941 | 3.969 | 4.024 |  | 3.946 | 3.972 | 4.028 |
| 3.71 |  | 3.935 | 3.964 | 4.022 |  | 3.942 | 3.970 | 4.027 |  | 3.947 | 3.975 | 4.032 |  | 3.952 | 3.979 | 4.036 |  | 3.956 | 3.983 | 4.039 |
| 3.72 |  | 3.946 | 3.975 | 4.033 |  | 3.952 | 3.981 | 4.038 |  | 3.958 | 3.986 | 4.043 |  | 3.963 | 3.990 | 4.047 |  | 3.967 | 3.994 | 4.050 |
| 3.73 |  | 3.957 | 3.985 | 4.044 |  | 3.963 | 3.991 | 4.049 |  | 3.969 | 3.997 | 4.054 |  | 3.974 | 4.001 | 4.058 |  | 3.978 | 4.005 | 4.061 |
| 3.74 |  | 3.967 | 3.996 | 4.055 |  | 3.974 | 4.002 | 4.060 |  | 3.980 | 4.008 | 4.065 |  | 3.985 | 4.012 | 4.069 |  | 3.989 | 4.016 | 4.072 |
| 3.75 |  | 3.978 | 4.007 | 4.066 |  | 3.985 | 4.013 | 4.071 |  | 3.990 | 4.018 | 4.076 |  | 3.996 | 4.023 | 4.080 |  | 4.000 | 4.027 | 4.083 |
| 3.76 |  | 3.989 | 4.018 | 4.077 |  | 3.996 | 4.024 | 4.083 |  | 4.001 | 4.029 | 4.087 |  | 4.007 | 4.034 | 4.091 |  | 4.010 | 4.038 | 4.094 |
| 3.77 |  | 4.000 | 4.029 | 4.088 |  | 4.006 | 4.035 | 4.094 |  | 4.012 | 4.040 | 4.098 |  | 4.017 | 4.045 | 4.102 |  | 4.021 | 4.049 | 4.106 |
| 3.78 |  | 4.010 | 4.040 | 4.099 |  | 4.017 | 4.046 | 4.105 |  | 4.023 | 4.051 | 4.109 |  | 4.028 | 4.056 | 4.113 |  | 4.032 | 4.060 | 4.117 |
| 3.79 |  | 4.021 | 4.050 | 4.110 |  | 4.028 | 4.057 | 4.116 |  | 4.034 | 4.062 | 4.120 |  | 4.039 | 4.067 | 4.124 |  | 4.043 | 4.071 | 4.128 |
| 3.80 |  | 4.032 | 4.061 | 4.122 |  | 4.039 | 4.068 | 4.127 |  | 4.044 | 4.073 | 4.131 |  | 4.050 | 4.077 | 4.135 |  | 4.054 | 4.081 | 4.139 |

**Appendix. (continued)**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  | | |  |  | | |  |  | | |  |  | | |  |  | | |
|  |  | 0.1 | 0.05 | 0.01 |  | 0.1 | 0.05 | 0.01 |  | 0.1 | 0.05 | 0.01 |  | 0.1 | 0.05 | 0.01 |  | 0.1 | 0.05 | 0.01 |
| 3.81 |  | 4.043 | 4.072 | 4.133 |  | 4.049 | 4.078 | 4.138 |  | 4.055 | 4.084 | 4.142 |  | 4.060 | 4.088 | 4.146 |  | 4.065 | 4.092 | 4.150 |
| 3.82 |  | 4.053 | 4.083 | 4.144 |  | 4.060 | 4.089 | 4.149 |  | 4.066 | 4.095 | 4.154 |  | 4.071 | 4.099 | 4.157 |  | 4.075 | 4.103 | 4.161 |
| 3.83 |  | 4.064 | 4.094 | 4.155 |  | 4.071 | 4.100 | 4.160 |  | 4.077 | 4.105 | 4.165 |  | 4.082 | 4.110 | 4.169 |  | 4.086 | 4.114 | 4.172 |
| 3.84 |  | 4.075 | 4.105 | 4.166 |  | 4.082 | 4.111 | 4.171 |  | 4.088 | 4.116 | 4.176 |  | 4.093 | 4.121 | 4.180 |  | 4.097 | 4.125 | 4.183 |
| 3.85 |  | 4.086 | 4.116 | 4.177 |  | 4.092 | 4.122 | 4.182 |  | 4.098 | 4.127 | 4.187 |  | 4.103 | 4.132 | 4.191 |  | 4.108 | 4.136 | 4.194 |
| 3.86 |  | 4.096 | 4.126 | 4.188 |  | 4.103 | 4.133 | 4.193 |  | 4.109 | 4.138 | 4.198 |  | 4.114 | 4.143 | 4.202 |  | 4.119 | 4.147 | 4.205 |
| 3.87 |  | 4.107 | 4.137 | 4.199 |  | 4.114 | 4.144 | 4.204 |  | 4.120 | 4.149 | 4.209 |  | 4.125 | 4.154 | 4.213 |  | 4.130 | 4.158 | 4.217 |
| 3.88 |  | 4.118 | 4.148 | 4.210 |  | 4.125 | 4.155 | 4.215 |  | 4.131 | 4.160 | 4.220 |  | 4.136 | 4.165 | 4.224 |  | 4.140 | 4.169 | 4.228 |
| 3.89 |  | 4.129 | 4.159 | 4.221 |  | 4.136 | 4.165 | 4.226 |  | 4.142 | 4.171 | 4.231 |  | 4.147 | 4.176 | 4.236 |  | 4.151 | 4.180 | 4.239 |
| 3.90 |  | 4.140 | 4.170 | 4.232 |  | 4.146 | 4.176 | 4.238 |  | 4.153 | 4.182 | 4.242 |  | 4.158 | 4.187 | 4.246 |  | 4.162 | 4.191 | 4.250 |
| 3.91 |  | 4.151 | 4.181 | 4.243 |  | 4.157 | 4.187 | 4.249 |  | 4.163 | 4.193 | 4.253 |  | 4.168 | 4.197 | 4.257 |  | 4.173 | 4.202 | 4.261 |
| 3.92 |  | 4.161 | 4.192 | 4.254 |  | 4.168 | 4.198 | 4.260 |  | 4.174 | 4.204 | 4.264 |  | 4.179 | 4.208 | 4.269 |  | 4.184 | 4.213 | 4.272 |
| 3.93 |  | 4.172 | 4.202 | 4.265 |  | 4.179 | 4.209 | 4.271 |  | 4.185 | 4.215 | 4.275 |  | 4.190 | 4.219 | 4.280 |  | 4.195 | 4.223 | 4.283 |
| 3.94 |  | 4.182 | 4.213 | 4.276 |  | 4.190 | 4.220 | 4.282 |  | 4.196 | 4.226 | 4.287 |  | 4.201 | 4.230 | 4.291 |  | 4.205 | 4.234 | 4.294 |
| 3.95 |  | 4.193 | 4.224 | 4.287 |  | 4.200 | 4.231 | 4.293 |  | 4.207 | 4.236 | 4.298 |  | 4.212 | 4.241 | 4.302 |  | 4.216 | 4.245 | 4.306 |
| 3.96 |  | 4.204 | 4.235 | 4.298 |  | 4.211 | 4.242 | 4.304 |  | 4.217 | 4.247 | 4.309 |  | 4.223 | 4.252 | 4.313 |  | 4.227 | 4.256 | 4.317 |
| 3.97 |  | 4.215 | 4.246 | 4.309 |  | 4.222 | 4.252 | 4.315 |  | 4.228 | 4.258 | 4.320 |  | 4.234 | 4.263 | 4.324 |  | 4.238 | 4.267 | 4.328 |
| 3.98 |  | 4.225 | 4.257 | 4.321 |  | 4.233 | 4.263 | 4.326 |  | 4.239 | 4.269 | 4.331 |  | 4.244 | 4.274 | 4.335 |  | 4.249 | 4.278 | 4.339 |
| 3.99 |  | 4.236 | 4.268 | 4.332 |  | 4.244 | 4.274 | 4.337 |  | 4.250 | 4.280 | 4.342 |  | 4.255 | 4.285 | 4.346 |  | 4.260 | 4.289 | 4.350 |
| 4.00 |  | 4.247 | 4.278 | 4.343 |  | 4.254 | 4.285 | 4.348 |  | 4.260 | 4.291 | 4.353 |  | 4.266 | 4.296 | 4.357 |  | 4.270 | 4.300 | 4.361 |

**Appendix. (continued)**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  | | |  |  | | |  |  | | |  |  | | |  |  | | |
|  |  | 0.1 | 0.05 | 0.01 |  | 0.1 | 0.05 | 0.01 |  | 0.1 | 0.05 | 0.01 |  | 0.1 | 0.05 | 0.01 |  | 0.1 | 0.05 | 0.01 |
| 4.01 |  | 4.258 | 4.289 | 4.354 |  | 4.265 | 4.296 | 4.359 |  | 4.271 | 4.302 | 4.364 |  | 4.277 | 4.307 | 4.369 |  | 4.281 | 4.311 | 4.372 |
| 4.02 |  | 4.269 | 4.300 | 4.365 |  | 4.276 | 4.307 | 4.371 |  | 4.282 | 4.313 | 4.375 |  | 4.287 | 4.318 | 4.380 |  | 4.292 | 4.322 | 4.383 |
| 4.03 |  | 4.279 | 4.311 | 4.376 |  | 4.287 | 4.318 | 4.382 |  | 4.293 | 4.323 | 4.386 |  | 4.298 | 4.329 | 4.391 |  | 4.303 | 4.333 | 4.395 |
| 4.04 |  | 4.290 | 4.322 | 4.387 |  | 4.298 | 4.329 | 4.393 |  | 4.304 | 4.334 | 4.398 |  | 4.309 | 4.340 | 4.402 |  | 4.314 | 4.344 | 4.406 |
| 4.05 |  | 4.301 | 4.333 | 4.398 |  | 4.308 | 4.340 | 4.404 |  | 4.314 | 4.345 | 4.409 |  | 4.320 | 4.350 | 4.413 |  | 4.325 | 4.355 | 4.417 |
| 4.06 |  | 4.312 | 4.344 | 4.409 |  | 4.319 | 4.350 | 4.415 |  | 4.325 | 4.356 | 4.420 |  | 4.331 | 4.361 | 4.424 |  | 4.335 | 4.366 | 4.428 |
| 4.07 |  | 4.322 | 4.355 | 4.420 |  | 4.330 | 4.361 | 4.426 |  | 4.336 | 4.367 | 4.431 |  | 4.342 | 4.372 | 4.435 |  | 4.346 | 4.377 | 4.439 |
| 4.08 |  | 4.333 | 4.365 | 4.431 |  | 4.341 | 4.372 | 4.437 |  | 4.347 | 4.378 | 4.442 |  | 4.352 | 4.383 | 4.446 |  | 4.357 | 4.387 | 4.450 |
| 4.09 |  | 4.344 | 4.376 | 4.442 |  | 4.351 | 4.383 | 4.448 |  | 4.358 | 4.389 | 4.453 |  | 4.363 | 4.394 | 4.457 |  | 4.368 | 4.398 | 4.461 |
| 4.10 |  | 4.355 | 4.387 | 4.453 |  | 4.362 | 4.394 | 4.459 |  | 4.369 | 4.400 | 4.464 |  | 4.374 | 4.405 | 4.469 |  | 4.379 | 4.409 | 4.472 |
| 4.11 |  | 4.366 | 4.398 | 4.465 |  | 4.373 | 4.405 | 4.470 |  | 4.380 | 4.411 | 4.475 |  | 4.385 | 4.416 | 4.480 |  | 4.390 | 4.420 | 4.484 |
| 4.12 |  | 4.376 | 4.409 | 4.476 |  | 4.384 | 4.416 | 4.481 |  | 4.390 | 4.422 | 4.486 |  | 4.396 | 4.427 | 4.491 |  | 4.401 | 4.431 | 4.495 |
| 4.13 |  | 4.387 | 4.420 | 4.487 |  | 4.395 | 4.427 | 4.493 |  | 4.401 | 4.433 | 4.498 |  | 4.407 | 4.438 | 4.502 |  | 4.411 | 4.442 | 4.506 |
| 4.14 |  | 4.398 | 4.431 | 4.498 |  | 4.405 | 4.438 | 4.504 |  | 4.412 | 4.443 | 4.509 |  | 4.417 | 4.449 | 4.513 |  | 4.422 | 4.453 | 4.517 |
| 4.15 |  | 4.409 | 4.442 | 4.509 |  | 4.416 | 4.448 | 4.515 |  | 4.423 | 4.454 | 4.520 |  | 4.428 | 4.460 | 4.524 |  | 4.433 | 4.464 | 4.528 |
| 4.16 |  | 4.420 | 4.452 | 4.520 |  | 4.427 | 4.459 | 4.526 |  | 4.434 | 4.465 | 4.531 |  | 4.439 | 4.471 | 4.535 |  | 4.444 | 4.475 | 4.539 |
| 4.17 |  | 4.430 | 4.463 | 4.531 |  | 4.438 | 4.470 | 4.537 |  | 4.444 | 4.476 | 4.542 |  | 4.450 | 4.482 | 4.547 |  | 4.455 | 4.486 | 4.550 |
| 4.18 |  | 4.441 | 4.474 | 4.542 |  | 4.449 | 4.481 | 4.548 |  | 4.455 | 4.487 | 4.553 |  | 4.461 | 4.493 | 4.558 |  | 4.466 | 4.497 | 4.562 |
| 4.19 |  | 4.452 | 4.485 | 4.553 |  | 4.459 | 4.492 | 4.559 |  | 4.466 | 4.498 | 4.564 |  | 4.472 | 4.504 | 4.569 |  | 4.477 | 4.508 | 4.573 |
| 4.20 |  | 4.463 | 4.496 | 4.564 |  | 4.470 | 4.503 | 4.570 |  | 4.477 | 4.509 | 4.575 |  | 4.482 | 4.514 | 4.580 |  | 4.487 | 4.519 | 4.584 |

**Appendix. (continued)**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  | | |  |  | | |  |  | | |  |  | | |  |  | | |
|  |  | 0.1 | 0.05 | 0.01 |  | 0.1 | 0.05 | 0.01 |  | 0.1 | 0.05 | 0.01 |  | 0.1 | 0.05 | 0.01 |  | 0.1 | 0.05 | 0.01 |
| 4.21 |  | 4.473 | 4.507 | 4.575 |  | 4.481 | 4.514 | 4.581 |  | 4.488 | 4.520 | 4.587 |  | 4.493 | 4.525 | 4.591 |  | 4.498 | 4.530 | 4.595 |
| 4.22 |  | 4.484 | 4.518 | 4.586 |  | 4.492 | 4.525 | 4.592 |  | 4.498 | 4.531 | 4.598 |  | 4.504 | 4.536 | 4.602 |  | 4.509 | 4.541 | 4.606 |
| 4.23 |  | 4.495 | 4.529 | 4.598 |  | 4.503 | 4.536 | 4.604 |  | 4.509 | 4.542 | 4.609 |  | 4.515 | 4.547 | 4.613 |  | 4.520 | 4.552 | 4.617 |
| 4.24 |  | 4.506 | 4.539 | 4.609 |  | 4.513 | 4.547 | 4.615 |  | 4.520 | 4.553 | 4.620 |  | 4.526 | 4.558 | 4.624 |  | 4.531 | 4.563 | 4.628 |
| 4.25 |  | 4.516 | 4.550 | 4.620 |  | 4.524 | 4.557 | 4.626 |  | 4.531 | 4.564 | 4.631 |  | 4.537 | 4.569 | 4.636 |  | 4.542 | 4.574 | 4.640 |
| 4.26 |  | 4.527 | 4.561 | 4.631 |  | 4.535 | 4.568 | 4.637 |  | 4.542 | 4.575 | 4.642 |  | 4.547 | 4.580 | 4.647 |  | 4.553 | 4.585 | 4.651 |
| 4.27 |  | 4.538 | 4.572 | 4.642 |  | 4.546 | 4.579 | 4.648 |  | 4.553 | 4.585 | 4.653 |  | 4.558 | 4.591 | 4.658 |  | 4.563 | 4.595 | 4.662 |
| 4.28 |  | 4.549 | 4.583 | 4.653 |  | 4.557 | 4.590 | 4.659 |  | 4.563 | 4.596 | 4.664 |  | 4.569 | 4.602 | 4.669 |  | 4.574 | 4.606 | 4.673 |
| 4.29 |  | 4.559 | 4.594 | 4.664 |  | 4.567 | 4.601 | 4.670 |  | 4.574 | 4.607 | 4.676 |  | 4.580 | 4.613 | 4.680 |  | 4.585 | 4.617 | 4.684 |
| 4.30 |  | 4.570 | 4.605 | 4.675 |  | 4.578 | 4.612 | 4.681 |  | 4.585 | 4.618 | 4.687 |  | 4.591 | 4.624 | 4.691 |  | 4.596 | 4.628 | 4.695 |
| 4.31 |  | 4.581 | 4.616 | 4.686 |  | 4.589 | 4.623 | 4.692 |  | 4.596 | 4.629 | 4.698 |  | 4.602 | 4.635 | 4.702 |  | 4.607 | 4.639 | 4.707 |
| 4.32 |  | 4.592 | 4.627 | 4.697 |  | 4.600 | 4.634 | 4.704 |  | 4.607 | 4.640 | 4.709 |  | 4.613 | 4.646 | 4.714 |  | 4.618 | 4.650 | 4.718 |
| 4.33 |  | 4.603 | 4.637 | 4.708 |  | 4.611 | 4.645 | 4.715 |  | 4.617 | 4.651 | 4.720 |  | 4.623 | 4.656 | 4.725 |  | 4.629 | 4.661 | 4.729 |
| 4.34 |  | 4.614 | 4.648 | 4.720 |  | 4.621 | 4.656 | 4.726 |  | 4.628 | 4.662 | 4.731 |  | 4.634 | 4.667 | 4.736 |  | 4.639 | 4.672 | 4.740 |
| 4.35 |  | 4.625 | 4.659 | 4.731 |  | 4.632 | 4.667 | 4.737 |  | 4.639 | 4.673 | 4.742 |  | 4.645 | 4.678 | 4.747 |  | 4.650 | 4.683 | 4.751 |
| 4.36 |  | 4.635 | 4.670 | 4.742 |  | 4.643 | 4.677 | 4.748 |  | 4.650 | 4.684 | 4.753 |  | 4.656 | 4.689 | 4.758 |  | 4.661 | 4.694 | 4.762 |
| 4.37 |  | 4.646 | 4.681 | 4.753 |  | 4.654 | 4.688 | 4.759 |  | 4.661 | 4.695 | 4.765 |  | 4.667 | 4.700 | 4.770 |  | 4.672 | 4.705 | 4.773 |
| 4.38 |  | 4.657 | 4.692 | 4.764 |  | 4.665 | 4.699 | 4.770 |  | 4.672 | 4.706 | 4.776 |  | 4.678 | 4.711 | 4.780 |  | 4.683 | 4.716 | 4.785 |
| 4.39 |  | 4.667 | 4.703 | 4.775 |  | 4.676 | 4.710 | 4.781 |  | 4.682 | 4.717 | 4.787 |  | 4.688 | 4.722 | 4.792 |  | 4.694 | 4.727 | 4.796 |
| 4.40 |  | 4.678 | 4.714 | 4.786 |  | 4.686 | 4.721 | 4.792 |  | 4.693 | 4.727 | 4.798 |  | 4.699 | 4.733 | 4.803 |  | 4.705 | 4.738 | 4.807 |

**Appendix. (continued)**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  | | |  |  | | |  |  | | |  |  | | |  |  | | |
|  |  | 0.1 | 0.05 | 0.01 |  | 0.1 | 0.05 | 0.01 |  | 0.1 | 0.05 | 0.01 |  | 0.1 | 0.05 | 0.01 |  | 0.1 | 0.05 | 0.01 |
| 4.41 |  | 4.689 | 4.725 | 4.797 |  | 4.697 | 4.732 | 4.803 |  | 4.704 | 4.738 | 4.809 |  | 4.710 | 4.744 | 4.814 |  | 4.715 | 4.749 | 4.818 |
| 4.42 |  | 4.700 | 4.735 | 4.808 |  | 4.708 | 4.743 | 4.815 |  | 4.715 | 4.749 | 4.820 |  | 4.721 | 4.755 | 4.825 |  | 4.726 | 4.760 | 4.829 |
| 4.43 |  | 4.711 | 4.746 | 4.819 |  | 4.719 | 4.754 | 4.826 |  | 4.726 | 4.760 | 4.831 |  | 4.732 | 4.766 | 4.836 |  | 4.737 | 4.771 | 4.840 |
| 4.44 |  | 4.721 | 4.757 | 4.831 |  | 4.730 | 4.765 | 4.837 |  | 4.737 | 4.771 | 4.842 |  | 4.743 | 4.777 | 4.847 |  | 4.748 | 4.782 | 4.852 |
| 4.45 |  | 4.732 | 4.768 | 4.842 |  | 4.740 | 4.776 | 4.848 |  | 4.748 | 4.782 | 4.854 |  | 4.754 | 4.788 | 4.858 |  | 4.759 | 4.793 | 4.863 |
| 4.46 |  | 4.743 | 4.779 | 4.853 |  | 4.751 | 4.787 | 4.859 |  | 4.759 | 4.793 | 4.865 |  | 4.765 | 4.799 | 4.870 |  | 4.770 | 4.804 | 4.874 |
| 4.47 |  | 4.754 | 4.790 | 4.864 |  | 4.762 | 4.798 | 4.870 |  | 4.769 | 4.804 | 4.876 |  | 4.775 | 4.810 | 4.881 |  | 4.781 | 4.815 | 4.885 |
| 4.48 |  | 4.764 | 4.801 | 4.875 |  | 4.773 | 4.808 | 4.881 |  | 4.780 | 4.815 | 4.887 |  | 4.786 | 4.821 | 4.892 |  | 4.792 | 4.826 | 4.896 |
| 4.49 |  | 4.775 | 4.812 | 4.886 |  | 4.784 | 4.819 | 4.893 |  | 4.791 | 4.826 | 4.898 |  | 4.797 | 4.832 | 4.903 |  | 4.802 | 4.837 | 4.907 |
| 4.50 |  | 4.786 | 4.823 | 4.897 |  | 4.794 | 4.830 | 4.904 |  | 4.802 | 4.837 | 4.909 |  | 4.808 | 4.843 | 4.914 |  | 4.813 | 4.848 | 4.919 |
| 4.51 |  | 4.797 | 4.833 | 4.908 |  | 4.805 | 4.841 | 4.915 |  | 4.812 | 4.848 | 4.920 |  | 4.819 | 4.854 | 4.925 |  | 4.824 | 4.859 | 4.930 |
| 4.52 |  | 4.808 | 4.844 | 4.919 |  | 4.816 | 4.852 | 4.926 |  | 4.823 | 4.859 | 4.932 |  | 4.830 | 4.865 | 4.937 |  | 4.835 | 4.870 | 4.941 |
| 4.53 |  | 4.818 | 4.855 | 4.930 |  | 4.827 | 4.863 | 4.937 |  | 4.834 | 4.870 | 4.943 |  | 4.840 | 4.876 | 4.948 |  | 4.846 | 4.880 | 4.952 |
| 4.54 |  | 4.829 | 4.866 | 4.942 |  | 4.838 | 4.874 | 4.948 |  | 4.845 | 4.881 | 4.954 |  | 4.851 | 4.886 | 4.959 |  | 4.857 | 4.891 | 4.963 |
| 4.55 |  | 4.840 | 4.877 | 4.953 |  | 4.849 | 4.885 | 4.959 |  | 4.856 | 4.892 | 4.965 |  | 4.862 | 4.897 | 4.970 |  | 4.868 | 4.902 | 4.974 |
| 4.56 |  | 4.851 | 4.888 | 4.964 |  | 4.860 | 4.896 | 4.970 |  | 4.867 | 4.903 | 4.976 |  | 4.873 | 4.908 | 4.981 |  | 4.879 | 4.913 | 4.986 |
| 4.57 |  | 4.863 | 4.899 | 4.975 |  | 4.870 | 4.907 | 4.982 |  | 4.877 | 4.914 | 4.987 |  | 4.884 | 4.919 | 4.992 |  | 4.889 | 4.924 | 4.997 |
| 4.58 |  | 4.872 | 4.910 | 4.986 |  | 4.881 | 4.918 | 4.993 |  | 4.888 | 4.925 | 4.998 |  | 4.895 | 4.930 | 5.003 |  | 4.900 | 4.935 | 5.008 |
| 4.59 |  | 4.883 | 4.921 | 4.997 |  | 4.892 | 4.929 | 5.004 |  | 4.899 | 4.935 | 5.010 |  | 4.906 | 4.941 | 5.015 |  | 4.911 | 4.946 | 5.019 |
| 4.60 |  | 4.894 | 4.932 | 5.008 |  | 4.903 | 4.939 | 5.015 |  | 4.910 | 4.946 | 5.021 |  | 4.917 | 4.952 | 5.026 |  | 4.922 | 4.957 | 5.030 |

**Appendix. (continued)**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  | | |  |  | | |  |  | | |  |  | | |  |  | | |
|  |  | 0.1 | 0.05 | 0.01 |  | 0.1 | 0.05 | 0.01 |  | 0.1 | 0.05 | 0.01 |  | 0.1 | 0.05 | 0.01 |  | 0.1 | 0.05 | 0.01 |
| 4.61 |  | 4.905 | 4.943 | 5.019 |  | 4.914 | 4.950 | 5.026 |  | 4.921 | 4.957 | 5.032 |  | 4.928 | 4.963 | 5.037 |  | 4.933 | 4.968 | 5.041 |
| 4.62 |  | 4.916 | 4.953 | 5.030 |  | 4.924 | 4.961 | 5.037 |  | 4.932 | 4.968 | 5.043 |  | 4.938 | 4.974 | 5.048 |  | 4.944 | 4.979 | 5.053 |
| 4.63 |  | 4.926 | 4.964 | 5.042 |  | 4.935 | 4.972 | 5.048 |  | 4.943 | 4.979 | 5.054 |  | 4.949 | 4.985 | 5.059 |  | 4.955 | 4.990 | 5.064 |
| 4.64 |  | 4.937 | 4.975 | 5.053 |  | 4.946 | 4.983 | 5.059 |  | 4.954 | 4.990 | 5.065 |  | 4.960 | 4.996 | 5.070 |  | 4.966 | 5.001 | 5.075 |
| 4.65 |  | 4.948 | 4.986 | 5.064 |  | 4.957 | 4.994 | 5.071 |  | 4.964 | 5.001 | 5.077 |  | 4.971 | 5.007 | 5.082 |  | 4.976 | 5.012 | 5.086 |
| 4.66 |  | 4.959 | 4.997 | 5.075 |  | 4.968 | 5.005 | 5.082 |  | 4.975 | 5.012 | 5.088 |  | 4.982 | 5.018 | 5.093 |  | 4.987 | 5.023 | 5.097 |
| 4.67 |  | 4.970 | 5.008 | 5.086 |  | 4.979 | 5.016 | 5.093 |  | 4.986 | 5.023 | 5.099 |  | 4.992 | 5.029 | 5.104 |  | 4.998 | 5.034 | 5.109 |
| 4.68 |  | 4.980 | 5.019 | 5.097 |  | 4.989 | 5.027 | 5.104 |  | 4.997 | 5.034 | 5.110 |  | 5.003 | 5.040 | 5.115 |  | 5.009 | 5.045 | 5.120 |
| 4.69 |  | 4.991 | 5.030 | 5.108 |  | 5.000 | 5.038 | 5.115 |  | 5.008 | 5.045 | 5.121 |  | 5.014 | 5.051 | 5.126 |  | 5.020 | 5.056 | 5.131 |
| 4.70 |  | 5.002 | 5.041 | 5.119 |  | 5.011 | 5.049 | 5.126 |  | 5.018 | 5.056 | 5.132 |  | 5.025 | 5.062 | 5.137 |  | 5.031 | 5.067 | 5.142 |
| 4.71 |  | 5.013 | 5.052 | 5.131 |  | 5.022 | 5.060 | 5.137 |  | 5.029 | 5.067 | 5.143 |  | 5.036 | 5.073 | 5.149 |  | 5.042 | 5.078 | 5.153 |
| 4.72 |  | 5.024 | 5.062 | 5.142 |  | 5.033 | 5.071 | 5.149 |  | 5.040 | 5.078 | 5.155 |  | 5.047 | 5.084 | 5.160 |  | 5.053 | 5.089 | 5.164 |
| 4.73 |  | 5.034 | 5.073 | 5.153 |  | 5.044 | 5.082 | 5.160 |  | 5.051 | 5.089 | 5.166 |  | 5.058 | 5.095 | 5.171 |  | 5.063 | 5.100 | 5.176 |
| 4.74 |  | 5.045 | 5.084 | 5.164 |  | 5.054 | 5.092 | 5.171 |  | 5.062 | 5.099 | 5.177 |  | 5.069 | 5.106 | 5.182 |  | 5.074 | 5.111 | 5.187 |
| 4.75 |  | 5.056 | 5.095 | 5.175 |  | 5.065 | 5.103 | 5.182 |  | 5.073 | 5.110 | 5.188 |  | 5.079 | 5.117 | 5.193 |  | 5.085 | 5.122 | 5.198 |
| 4.76 |  | 5.067 | 5.106 | 5.186 |  | 5.076 | 5.114 | 5.193 |  | 5.084 | 5.121 | 5.199 |  | 5.090 | 5.128 | 5.204 |  | 5.096 | 5.133 | 5.209 |
| 4.77 |  | 5.078 | 5.117 | 5.197 |  | 5.087 | 5.125 | 5.204 |  | 5.094 | 5.132 | 5.210 |  | 5.101 | 5.139 | 5.216 |  | 5.107 | 5.144 | 5.220 |
| 4.78 |  | 5.088 | 5.128 | 5.208 |  | 5.098 | 5.136 | 5.215 |  | 5.105 | 5.143 | 5.222 |  | 5.112 | 5.149 | 5.227 |  | 5.118 | 5.155 | 5.232 |
| 4.79 |  | 5.099 | 5.139 | 5.219 |  | 5.109 | 5.147 | 5.227 |  | 5.116 | 5.154 | 5.233 |  | 5.123 | 5.160 | 5.238 |  | 5.129 | 5.166 | 5.243 |
| 4.80 |  | 5.110 | 5.150 | 5.231 |  | 5.119 | 5.158 | 5.238 |  | 5.127 | 5.165 | 5.244 |  | 5.134 | 5.171 | 5.249 |  | 5.140 | 5.177 | 5.254 |

**Appendix. (continued)**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  | | |  |  | | |  |  | | |  |  | | |  |  | | |
|  |  | 0.1 | 0.05 | 0.01 |  | 0.1 | 0.05 | 0.01 |  | 0.1 | 0.05 | 0.01 |  | 0.1 | 0.05 | 0.01 |  | 0.1 | 0.05 | 0.01 |
| 4.81 |  | 5.121 | 5.161 | 5.242 |  | 5.130 | 5.169 | 5.249 |  | 5.138 | 5.176 | 5.255 |  | 5.145 | 5.182 | 5.260 |  | 5.150 | 5.188 | 5.265 |
| 4.82 |  | 5.132 | 5.172 | 5.253 |  | 5.141 | 5.180 | 5.260 |  | 5.149 | 5.187 | 5.266 |  | 5.155 | 5.193 | 5.271 |  | 5.161 | 5.199 | 5.276 |
| 4.83 |  | 5.143 | 5.182 | 5.264 |  | 5.152 | 5.191 | 5.271 |  | 5.160 | 5.198 | 5.277 |  | 5.166 | 5.204 | 5.283 |  | 5.172 | 5.210 | 5.287 |
| 4.84 |  | 5.153 | 5.193 | 5.275 |  | 5.163 | 5.202 | 5.282 |  | 5.170 | 5.208 | 5.288 |  | 5.177 | 5.215 | 5.294 |  | 5.183 | 5.221 | 5.299 |
| 4.85 |  | 5.164 | 5.204 | 5.286 |  | 5.173 | 5.213 | 5.293 |  | 5.181 | 5.219 | 5.300 |  | 5.188 | 5.226 | 5.305 |  | 5.194 | 5.232 | 5.310 |
| 4.86 |  | 5.175 | 5.215 | 5.297 |  | 5.184 | 5.224 | 5.304 |  | 5.192 | 5.230 | 5.311 |  | 5.199 | 5.237 | 5.316 |  | 5.205 | 5.243 | 5.321 |
| 4.87 |  | 5.186 | 5.226 | 5.308 |  | 5.195 | 5.235 | 5.315 |  | 5.203 | 5.241 | 5.322 |  | 5.210 | 5.248 | 5.327 |  | 5.216 | 5.254 | 5.332 |
| 4.88 |  | 5.197 | 5.237 | 5.320 |  | 5.206 | 5.246 | 5.327 |  | 5.214 | 5.252 | 5.333 |  | 5.221 | 5.259 | 5.339 |  | 5.227 | 5.265 | 5.343 |
| 4.89 |  | 5.207 | 5.248 | 5.331 |  | 5.217 | 5.256 | 5.338 |  | 5.225 | 5.263 | 5.344 |  | 5.232 | 5.270 | 5.350 |  | 5.238 | 5.276 | 5.355 |
| 4.90 |  | 5.218 | 5.259 | 5.342 |  | 5.228 | 5.267 | 5.349 |  | 5.235 | 5.274 | 5.355 |  | 5.242 | 5.281 | 5.360 |  | 5.248 | 5.287 | 5.366 |
| 4.91 |  | 5.229 | 5.270 | 5.353 |  | 5.239 | 5.278 | 5.360 |  | 5.246 | 5.285 | 5.367 |  | 5.253 | 5.292 | 5.372 |  | 5.259 | 5.298 | 5.377 |
| 4.92 |  | 5.240 | 5.281 | 5.364 |  | 5.249 | 5.289 | 5.371 |  | 5.257 | 5.296 | 5.378 |  | 5.264 | 5.303 | 5.383 |  | 5.270 | 5.309 | 5.388 |
| 4.93 |  | 5.251 | 5.292 | 5.375 |  | 5.260 | 5.300 | 5.383 |  | 5.268 | 5.308 | 5.389 |  | 5.275 | 5.314 | 5.394 |  | 5.281 | 5.320 | 5.399 |
| 4.94 |  | 5.261 | 5.302 | 5.386 |  | 5.271 | 5.311 | 5.394 |  | 5.279 | 5.319 | 5.400 |  | 5.286 | 5.325 | 5.406 |  | 5.292 | 5.331 | 5.410 |
| 4.95 |  | 5.272 | 5.313 | 5.398 |  | 5.282 | 5.322 | 5.405 |  | 5.290 | 5.330 | 5.411 |  | 5.297 | 5.336 | 5.417 |  | 5.303 | 5.342 | 5.422 |
| 4.96 |  | 5.283 | 5.324 | 5.409 |  | 5.293 | 5.333 | 5.416 |  | 5.301 | 5.340 | 5.422 |  | 5.308 | 5.347 | 5.428 |  | 5.314 | 5.353 | 5.433 |
| 4.97 |  | 5.294 | 5.335 | 5.420 |  | 5.303 | 5.344 | 5.427 |  | 5.311 | 5.351 | 5.434 |  | 5.319 | 5.358 | 5.439 |  | 5.325 | 5.364 | 5.444 |
| 4.98 |  | 5.305 | 5.346 | 5.431 |  | 5.314 | 5.355 | 5.438 |  | 5.322 | 5.362 | 5.445 |  | 5.330 | 5.369 | 5.450 |  | 5.336 | 5.375 | 5.455 |
| 4.99 |  | 5.315 | 5.357 | 5.442 |  | 5.325 | 5.366 | 5.449 |  | 5.333 | 5.373 | 5.456 |  | 5.340 | 5.380 | 5.462 |  | 5.346 | 5.386 | 5.466 |
| 5.00 |  | 5.326 | 5.368 | 5.453 |  | 5.336 | 5.377 | 5.461 |  | 5.344 | 5.384 | 5.467 |  | 5.351 | 5.391 | 5.473 |  | 5.357 | 5.397 | 5.478 |

**Appendix. (continued)**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  | | |  |  | | |  |  | | |  |  | | |  |  | | |
|  |  | 0.1 | 0.05 | 0.01 |  | 0.1 | 0.05 | 0.01 |  | 0.1 | 0.05 | 0.01 |  | 0.1 | 0.05 | 0.01 |  | 0.1 | 0.05 | 0.01 |
| 5.01 |  | 5.337 | 5.379 | 5.464 |  | 5.347 | 5.388 | 5.472 |  | 5.355 | 5.395 | 5.478 |  | 5.362 | 5.402 | 5.484 |  | 5.368 | 5.408 | 5.489 |
| 5.02 |  | 5.348 | 5.390 | 5.475 |  | 5.358 | 5.399 | 5.483 |  | 5.366 | 5.406 | 5.489 |  | 5.373 | 5.413 | 5.495 |  | 5.379 | 5.419 | 5.500 |
| 5.03 |  | 5.359 | 5.401 | 5.487 |  | 5.368 | 5.410 | 5.494 |  | 5.377 | 5.417 | 5.501 |  | 5.384 | 5.424 | 5.506 |  | 5.390 | 5.430 | 5.511 |
| 5.04 |  | 5.370 | 5.412 | 5.498 |  | 5.379 | 5.421 | 5.505 |  | 5.387 | 5.428 | 5.512 |  | 5.395 | 5.435 | 5.517 |  | 5.401 | 5.441 | 5.522 |
| 5.05 |  | 5.380 | 5.423 | 5.509 |  | 5.390 | 5.431 | 5.516 |  | 5.398 | 5.439 | 5.523 |  | 5.406 | 5.446 | 5.529 |  | 5.412 | 5.451 | 5.534 |
| 5.06 |  | 5.391 | 5.433 | 5.520 |  | 5.401 | 5.442 | 5.528 |  | 5.409 | 5.450 | 5.534 |  | 5.416 | 5.457 | 5.540 |  | 5.423 | 5.462 | 5.545 |
| 5.07 |  | 5.402 | 5.444 | 5.531 |  | 5.412 | 5.453 | 5.539 |  | 5.420 | 5.461 | 5.545 |  | 5.427 | 5.468 | 5.551 |  | 5.434 | 5.473 | 5.556 |
| 5.08 |  | 5.413 | 5.455 | 5.542 |  | 5.423 | 5.464 | 5.550 |  | 5.431 | 5.472 | 5.556 |  | 5.438 | 5.479 | 5.562 |  | 5.444 | 5.484 | 5.567 |
| 5.09 |  | 5.424 | 5.466 | 5.553 |  | 5.434 | 5.475 | 5.561 |  | 5.442 | 5.483 | 5.568 |  | 5.449 | 5.490 | 5.573 |  | 5.455 | 5.495 | 5.578 |
| 5.10 |  | 5.434 | 5.477 | 5.565 |  | 5.444 | 5.486 | 5.572 |  | 5.453 | 5.494 | 5.579 |  | 5.460 | 5.501 | 5.585 |  | 5.466 | 5.506 | 5.590 |
| 5.11 |  | 5.445 | 5.488 | 5.576 |  | 5.455 | 5.497 | 5.583 |  | 5.464 | 5.505 | 5.590 |  | 5.471 | 5.512 | 5.596 |  | 5.477 | 5.517 | 5.601 |
| 5.12 |  | 5.456 | 5.499 | 5.587 |  | 5.466 | 5.508 | 5.594 |  | 5.474 | 5.516 | 5.601 |  | 5.482 | 5.523 | 5.607 |  | 5.488 | 5.528 | 5.612 |
| 5.13 |  | 5.467 | 5.510 | 5.598 |  | 5.477 | 5.519 | 5.606 |  | 5.485 | 5.527 | 5.612 |  | 5.493 | 5.534 | 5.618 |  | 5.499 | 5.539 | 5.623 |
| 5.14 |  | 5.478 | 5.521 | 5.609 |  | 5.488 | 5.530 | 5.617 |  | 5.496 | 5.538 | 5.623 |  | 5.503 | 5.545 | 5.629 |  | 5.510 | 5.550 | 5.634 |
| 5.15 |  | 5.489 | 5.532 | 5.620 |  | 5.499 | 5.541 | 5.628 |  | 5.507 | 5.549 | 5.635 |  | 5.514 | 5.555 | 5.640 |  | 5.521 | 5.561 | 5.646 |
| 5.16 |  | 5.499 | 5.543 | 5.631 |  | 5.509 | 5.552 | 5.639 |  | 5.518 | 5.560 | 5.646 |  | 5.525 | 5.566 | 5.652 |  | 5.532 | 5.572 | 5.657 |
| 5.17 |  | 5.510 | 5.554 | 5.642 |  | 5.520 | 5.563 | 5.650 |  | 5.529 | 5.571 | 5.657 |  | 5.536 | 5.577 | 5.663 |  | 5.543 | 5.583 | 5.668 |
| 5.18 |  | 5.521 | 5.565 | 5.654 |  | 5.531 | 5.574 | 5.661 |  | 5.540 | 5.582 | 5.668 |  | 5.547 | 5.588 | 5.674 |  | 5.553 | 5.594 | 5.679 |
| 5.19 |  | 5.532 | 5.575 | 5.665 |  | 5.542 | 5.585 | 5.673 |  | 5.550 | 5.593 | 5.679 |  | 5.558 | 5.599 | 5.685 |  | 5.564 | 5.605 | 5.690 |
| 5.20 |  | 5.543 | 5.586 | 5.676 |  | 5.553 | 5.596 | 5.684 |  | 5.561 | 5.603 | 5.690 |  | 5.569 | 5.610 | 5.696 |  | 5.575 | 5.616 | 5.702 |

**Appendix. (continued)**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  | | |  |  | | |  |  | | |  |  | | |  |  | | |
|  |  | 0.1 | 0.05 | 0.01 |  | 0.1 | 0.05 | 0.01 |  | 0.1 | 0.05 | 0.01 |  | 0.1 | 0.05 | 0.01 |  | 0.1 | 0.05 | 0.01 |
| 5.21 |  | 5.553 | 5.597 | 5.687 |  | 5.564 | 5.607 | 5.695 |  | 5.572 | 5.614 | 5.702 |  | 5.580 | 5.621 | 5.708 |  | 5.586 | 5.627 | 5.713 |
| 5.22 |  | 5.564 | 5.608 | 5.698 |  | 5.575 | 5.618 | 5.706 |  | 5.583 | 5.625 | 5.713 |  | 5.590 | 5.632 | 5.719 |  | 5.597 | 5.638 | 5.724 |
| 5.23 |  | 5.575 | 5.619 | 5.709 |  | 5.585 | 5.628 | 5.717 |  | 5.594 | 5.636 | 5.724 |  | 5.601 | 5.643 | 5.730 |  | 5.608 | 5.649 | 5.735 |
| 5.24 |  | 5.586 | 5.630 | 5.720 |  | 5.596 | 5.639 | 5.728 |  | 5.605 | 5.647 | 5.735 |  | 5.612 | 5.654 | 5.741 |  | 5.619 | 5.660 | 5.746 |
| 5.25 |  | 5.597 | 5.641 | 5.732 |  | 5.607 | 5.650 | 5.739 |  | 5.616 | 5.658 | 5.746 |  | 5.623 | 5.665 | 5.752 |  | 5.630 | 5.671 | 5.758 |
| 5.26 |  | 5.607 | 5.652 | 5.743 |  | 5.618 | 5.661 | 5.751 |  | 5.626 | 5.669 | 5.758 |  | 5.634 | 5.676 | 5.764 |  | 5.641 | 5.682 | 5.769 |
| 5.27 |  | 5.618 | 5.663 | 5.754 |  | 5.629 | 5.672 | 5.762 |  | 5.637 | 5.680 | 5.769 |  | 5.645 | 5.687 | 5.775 |  | 5.652 | 5.693 | 5.780 |
| 5.28 |  | 5.629 | 5.674 | 5.765 |  | 5.639 | 5.683 | 5.773 |  | 5.648 | 5.691 | 5.780 |  | 5.656 | 5.698 | 5.786 |  | 5.662 | 5.704 | 5.791 |
| 5.29 |  | 5.640 | 5.685 | 5.776 |  | 5.650 | 5.694 | 5.784 |  | 5.659 | 5.702 | 5.791 |  | 5.667 | 5.709 | 5.797 |  | 5.673 | 5.715 | 5.802 |
| 5.30 |  | 5.651 | 5.696 | 5.787 |  | 5.661 | 5.705 | 5.795 |  | 5.670 | 5.713 | 5.802 |  | 5.678 | 5.720 | 5.808 |  | 5.684 | 5.726 | 5.814 |
| 5.31 |  | 5.662 | 5.707 | 5.798 |  | 5.672 | 5.716 | 5.807 |  | 5.681 | 5.724 | 5.813 |  | 5.688 | 5.731 | 5.819 |  | 5.695 | 5.737 | 5.825 |
| 5.32 |  | 5.673 | 5.717 | 5.810 |  | 5.683 | 5.727 | 5.818 |  | 5.692 | 5.735 | 5.825 |  | 5.699 | 5.742 | 5.831 |  | 5.706 | 5.748 | 5.836 |
| 5.33 |  | 5.683 | 5.728 | 5.821 |  | 5.694 | 5.738 | 5.828 |  | 5.702 | 5.746 | 5.836 |  | 5.710 | 5.753 | 5.842 |  | 5.717 | 5.759 | 5.847 |
| 5.34 |  | 5.694 | 5.739 | 5.832 |  | 5.705 | 5.749 | 5.840 |  | 5.713 | 5.757 | 5.847 |  | 5.721 | 5.764 | 5.853 |  | 5.728 | 5.770 | 5.858 |
| 5.35 |  | 5.705 | 5.750 | 5.843 |  | 5.715 | 5.760 | 5.851 |  | 5.724 | 5.768 | 5.858 |  | 5.732 | 5.775 | 5.864 |  | 5.739 | 5.781 | 5.870 |
| 5.36 |  | 5.716 | 5.761 | 5.854 |  | 5.726 | 5.771 | 5.862 |  | 5.735 | 5.779 | 5.869 |  | 5.743 | 5.786 | 5.875 |  | 5.750 | 5.792 | 5.881 |
| 5.37 |  | 5.727 | 5.772 | 5.865 |  | 5.737 | 5.782 | 5.873 |  | 5.746 | 5.790 | 5.881 |  | 5.754 | 5.797 | 5.887 |  | 5.761 | 5.803 | 5.892 |
| 5.38 |  | 5.737 | 5.783 | 5.876 |  | 5.748 | 5.793 | 5.885 |  | 5.757 | 5.801 | 5.892 |  | 5.765 | 5.808 | 5.898 |  | 5.771 | 5.814 | 5.903 |
| 5.39 |  | 5.748 | 5.794 | 5.888 |  | 5.759 | 5.804 | 5.896 |  | 5.768 | 5.812 | 5.903 |  | 5.775 | 5.819 | 5.909 |  | 5.782 | 5.825 | 5.914 |
| 5.40 |  | 5.759 | 5.805 | 5.899 |  | 5.770 | 5.815 | 5.907 |  | 5.779 | 5.823 | 5.914 |  | 5.786 | 5.830 | 5.920 |  | 5.793 | 5.836 | 5.926 |

**Appendix. (continued)**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  | | |  |  | | |  |  | | |  |  | | |  |  | | |
|  |  | 0.1 | 0.05 | 0.01 |  | 0.1 | 0.05 | 0.01 |  | 0.1 | 0.05 | 0.01 |  | 0.1 | 0.05 | 0.01 |  | 0.1 | 0.05 | 0.01 |
| 5.41 |  | 5.770 | 5.816 | 5.910 |  | 5.780 | 5.826 | 5.918 |  | 5.789 | 5.834 | 5.925 |  | 5.797 | 5.841 | 5.931 |  | 5.804 | 5.847 | 5.937 |
| 5.42 |  | 5.781 | 5.827 | 5.921 |  | 5.791 | 5.836 | 5.929 |  | 5.800 | 5.845 | 5.936 |  | 5.808 | 5.852 | 5.943 |  | 5.815 | 5.858 | 5.948 |
| 5.43 |  | 5.791 | 5.838 | 5.932 |  | 5.802 | 5.847 | 5.940 |  | 5.811 | 5.856 | 5.947 |  | 5.819 | 5.863 | 5.954 |  | 5.826 | 5.869 | 5.959 |
| 5.44 |  | 5.802 | 5.849 | 5.943 |  | 5.813 | 5.858 | 5.952 |  | 5.822 | 5.867 | 5.959 |  | 5.830 | 5.874 | 5.965 |  | 5.837 | 5.880 | 5.971 |
| 5.45 |  | 5.813 | 5.860 | 5.954 |  | 5.824 | 5.869 | 5.963 |  | 5.833 | 5.878 | 5.970 |  | 5.841 | 5.885 | 5.976 |  | 5.848 | 5.891 | 5.982 |
| 5.46 |  | 5.824 | 5.870 | 5.966 |  | 5.835 | 5.880 | 5.974 |  | 5.844 | 5.889 | 5.981 |  | 5.852 | 5.896 | 5.987 |  | 5.859 | 5.902 | 5.993 |
| 5.47 |  | 5.835 | 5.881 | 5.977 |  | 5.846 | 5.891 | 5.985 |  | 5.855 | 5.900 | 5.992 |  | 5.863 | 5.907 | 5.999 |  | 5.870 | 5.913 | 6.004 |
| 5.48 |  | 5.846 | 5.892 | 5.988 |  | 5.856 | 5.902 | 5.996 |  | 5.865 | 5.911 | 6.004 |  | 5.874 | 5.918 | 6.010 |  | 5.880 | 5.924 | 6.015 |
| 5.49 |  | 5.856 | 5.903 | 5.999 |  | 5.867 | 5.913 | 6.007 |  | 5.876 | 5.922 | 6.015 |  | 5.884 | 5.929 | 6.021 |  | 5.891 | 5.935 | 6.027 |
| 5.50 |  | 5.867 | 5.914 | 6.010 |  | 5.878 | 5.924 | 6.018 |  | 5.887 | 5.933 | 6.026 |  | 5.895 | 5.940 | 6.032 |  | 5.902 | 5.946 | 6.038 |
| 5.51 |  | 5.878 | 5.925 | 6.021 |  | 5.889 | 5.935 | 6.030 |  | 5.898 | 5.944 | 6.037 |  | 5.906 | 5.951 | 6.043 |  | 5.913 | 5.957 | 6.049 |
| 5.52 |  | 5.889 | 5.936 | 6.033 |  | 5.900 | 5.946 | 6.040 |  | 5.909 | 5.955 | 6.048 |  | 5.917 | 5.962 | 6.055 |  | 5.924 | 5.968 | 6.060 |
| 5.53 |  | 5.900 | 5.947 | 6.044 |  | 5.911 | 5.957 | 6.052 |  | 5.920 | 5.965 | 6.059 |  | 5.928 | 5.973 | 6.066 |  | 5.935 | 5.979 | 6.071 |
| 5.54 |  | 5.911 | 5.958 | 6.055 |  | 5.921 | 5.968 | 6.063 |  | 5.931 | 5.976 | 6.071 |  | 5.939 | 5.984 | 6.077 |  | 5.946 | 5.990 | 6.083 |
| 5.55 |  | 5.921 | 5.969 | 6.066 |  | 5.932 | 5.979 | 6.074 |  | 5.942 | 5.987 | 6.082 |  | 5.950 | 5.995 | 6.088 |  | 5.957 | 6.001 | 6.094 |
| 5.56 |  | 5.932 | 5.980 | 6.077 |  | 5.943 | 5.990 | 6.086 |  | 5.952 | 5.998 | 6.093 |  | 5.961 | 6.006 | 6.099 |  | 5.968 | 6.012 | 6.105 |
| 5.57 |  | 5.943 | 5.991 | 6.088 |  | 5.954 | 6.001 | 6.097 |  | 5.963 | 6.009 | 6.104 |  | 5.972 | 6.017 | 6.111 |  | 5.979 | 6.023 | 6.116 |
| 5.58 |  | 5.954 | 6.002 | 6.099 |  | 5.965 | 6.012 | 6.108 |  | 5.974 | 6.020 | 6.115 |  | 5.982 | 6.028 | 6.122 |  | 5.989 | 6.034 | 6.127 |
| 5.59 |  | 5.965 | 6.013 | 6.111 |  | 5.976 | 6.023 | 6.119 |  | 5.985 | 6.031 | 6.127 |  | 5.993 | 6.039 | 6.133 |  | 6.000 | 6.045 | 6.139 |
| 5.60 |  | 5.976 | 6.024 | 6.122 |  | 5.987 | 6.034 | 6.130 |  | 5.996 | 6.042 | 6.138 |  | 6.004 | 6.050 | 6.144 |  | 6.011 | 6.056 | 6.150 |

**Appendix. (continued)**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  | | |  |  | | |  |  | | |  |  | | |  |  | | |
|  |  | 0.1 | 0.05 | 0.01 |  | 0.1 | 0.05 | 0.01 |  | 0.1 | 0.05 | 0.01 |  | 0.1 | 0.05 | 0.01 |  | 0.1 | 0.05 | 0.01 |
| 5.61 |  | 5.986 | 6.034 | 6.133 |  | 5.997 | 6.045 | 6.142 |  | 6.007 | 6.053 | 6.149 |  | 6.015 | 6.061 | 6.155 |  | 6.022 | 6.067 | 6.161 |
| 5.62 |  | 5.997 | 6.045 | 6.144 |  | 6.008 | 6.056 | 6.153 |  | 6.018 | 6.064 | 6.160 |  | 6.026 | 6.072 | 6.167 |  | 6.033 | 6.078 | 6.172 |
| 5.63 |  | 6.008 | 6.056 | 6.155 |  | 6.019 | 6.067 | 6.164 |  | 6.029 | 6.075 | 6.171 |  | 6.037 | 6.083 | 6.178 |  | 6.044 | 6.089 | 6.184 |
| 5.64 |  | 6.019 | 6.067 | 6.166 |  | 6.030 | 6.077 | 6.175 |  | 6.039 | 6.086 | 6.182 |  | 6.048 | 6.094 | 6.189 |  | 6.055 | 6.100 | 6.195 |
| 5.65 |  | 6.030 | 6.078 | 6.177 |  | 6.041 | 6.088 | 6.186 |  | 6.050 | 6.097 | 6.194 |  | 6.059 | 6.105 | 6.200 |  | 6.066 | 6.111 | 6.206 |
| 5.66 |  | 6.040 | 6.089 | 6.189 |  | 6.052 | 6.099 | 6.197 |  | 6.061 | 6.108 | 6.205 |  | 6.070 | 6.116 | 6.211 |  | 6.077 | 6.122 | 6.217 |
| 5.67 |  | 6.051 | 6.100 | 6.200 |  | 6.063 | 6.110 | 6.209 |  | 6.072 | 6.119 | 6.216 |  | 6.080 | 6.127 | 6.223 |  | 6.088 | 6.134 | 6.228 |
| 5.68 |  | 6.062 | 6.111 | 6.211 |  | 6.074 | 6.121 | 6.220 |  | 6.083 | 6.130 | 6.227 |  | 6.091 | 6.138 | 6.234 |  | 6.099 | 6.145 | 6.240 |
| 5.69 |  | 6.073 | 6.122 | 6.222 |  | 6.084 | 6.132 | 6.231 |  | 6.094 | 6.141 | 6.238 |  | 6.102 | 6.149 | 6.245 |  | 6.109 | 6.156 | 6.251 |
| 5.70 |  | 6.084 | 6.133 | 6.233 |  | 6.095 | 6.143 | 6.242 |  | 6.105 | 6.152 | 6.250 |  | 6.113 | 6.160 | 6.256 |  | 6.120 | 6.167 | 6.262 |
| 5.71 |  | 6.095 | 6.144 | 6.244 |  | 6.106 | 6.154 | 6.253 |  | 6.116 | 6.163 | 6.261 |  | 6.124 | 6.171 | 6.267 |  | 6.131 | 6.178 | 6.273 |
| 5.72 |  | 6.105 | 6.155 | 6.256 |  | 6.117 | 6.165 | 6.264 |  | 6.126 | 6.173 | 6.272 |  | 6.135 | 6.182 | 6.279 |  | 6.142 | 6.189 | 6.285 |
| 5.73 |  | 6.116 | 6.166 | 6.267 |  | 6.128 | 6.176 | 6.276 |  | 6.137 | 6.185 | 6.283 |  | 6.146 | 6.193 | 6.290 |  | 6.153 | 6.200 | 6.296 |
| 5.74 |  | 6.127 | 6.177 | 6.278 |  | 6.139 | 6.187 | 6.287 |  | 6.148 | 6.195 | 6.294 |  | 6.157 | 6.204 | 6.301 |  | 6.164 | 6.211 | 6.307 |
| 5.75 |  | 6.138 | 6.188 | 6.289 |  | 6.150 | 6.198 | 6.298 |  | 6.159 | 6.207 | 6.306 |  | 6.168 | 6.215 | 6.312 |  | 6.175 | 6.222 | 6.318 |
| 5.76 |  | 6.149 | 6.199 | 6.300 |  | 6.160 | 6.209 | 6.309 |  | 6.170 | 6.218 | 6.317 |  | 6.178 | 6.226 | 6.323 |  | 6.186 | 6.233 | 6.329 |
| 5.77 |  | 6.160 | 6.210 | 6.311 |  | 6.171 | 6.220 | 6.320 |  | 6.181 | 6.229 | 6.328 |  | 6.189 | 6.237 | 6.335 |  | 6.197 | 6.244 | 6.341 |
| 5.78 |  | 6.170 | 6.220 | 6.322 |  | 6.182 | 6.231 | 6.331 |  | 6.192 | 6.240 | 6.339 |  | 6.200 | 6.248 | 6.346 |  | 6.208 | 6.255 | 6.352 |
| 5.79 |  | 6.181 | 6.231 | 6.334 |  | 6.193 | 6.242 | 6.343 |  | 6.203 | 6.251 | 6.350 |  | 6.211 | 6.259 | 6.357 |  | 6.219 | 6.266 | 6.363 |
| 5.80 |  | 6.192 | 6.242 | 6.345 |  | 6.204 | 6.253 | 6.354 |  | 6.213 | 6.262 | 6.362 |  | 6.222 | 6.270 | 6.368 |  | 6.229 | 6.277 | 6.374 |

**Appendix. (continued)**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  | | |  |  | | |  |  | | |  |  | | |  |  | | |
|  |  | 0.1 | 0.05 | 0.01 |  | 0.1 | 0.05 | 0.01 |  | 0.1 | 0.05 | 0.01 |  | 0.1 | 0.05 | 0.01 |  | 0.1 | 0.05 | 0.01 |
| 5.81 |  | 6.203 | 6.253 | 6.356 |  | 6.214 | 6.264 | 6.365 |  | 6.224 | 6.273 | 6.373 |  | 6.233 | 6.281 | 6.379 |  | 6.240 | 6.288 | 6.385 |
| 5.82 |  | 6.214 | 6.264 | 6.367 |  | 6.225 | 6.275 | 6.376 |  | 6.235 | 6.283 | 6.384 |  | 6.244 | 6.292 | 6.391 |  | 6.251 | 6.299 | 6.397 |
| 5.83 |  | 6.225 | 6.275 | 6.378 |  | 6.236 | 6.286 | 6.387 |  | 6.246 | 6.294 | 6.395 |  | 6.255 | 6.303 | 6.402 |  | 6.262 | 6.310 | 6.408 |
| 5.84 |  | 6.235 | 6.286 | 6.389 |  | 6.247 | 6.297 | 6.398 |  | 6.257 | 6.305 | 6.406 |  | 6.266 | 6.314 | 6.413 |  | 6.273 | 6.321 | 6.419 |
| 5.85 |  | 6.246 | 6.297 | 6.401 |  | 6.258 | 6.308 | 6.409 |  | 6.268 | 6.316 | 6.418 |  | 6.277 | 6.325 | 6.424 |  | 6.284 | 6.332 | 6.430 |
| 5.86 |  | 6.257 | 6.308 | 6.412 |  | 6.269 | 6.319 | 6.421 |  | 6.279 | 6.327 | 6.429 |  | 6.287 | 6.336 | 6.436 |  | 6.295 | 6.343 | 6.442 |
| 5.87 |  | 6.268 | 6.319 | 6.423 |  | 6.280 | 6.330 | 6.432 |  | 6.290 | 6.339 | 6.440 |  | 6.298 | 6.347 | 6.447 |  | 6.306 | 6.354 | 6.453 |
| 5.88 |  | 6.279 | 6.330 | 6.434 |  | 6.291 | 6.341 | 6.443 |  | 6.300 | 6.349 | 6.451 |  | 6.309 | 6.358 | 6.458 |  | 6.317 | 6.365 | 6.464 |
| 5.89 |  | 6.290 | 6.341 | 6.445 |  | 6.302 | 6.351 | 6.454 |  | 6.311 | 6.360 | 6.462 |  | 6.320 | 6.369 | 6.469 |  | 6.328 | 6.376 | 6.475 |
| 5.90 |  | 6.300 | 6.352 | 6.456 |  | 6.312 | 6.362 | 6.466 |  | 6.322 | 6.372 | 6.473 |  | 6.331 | 6.380 | 6.480 |  | 6.339 | 6.387 | 6.486 |
| 5.91 |  | 6.311 | 6.363 | 6.468 |  | 6.323 | 6.373 | 6.477 |  | 6.333 | 6.383 | 6.485 |  | 6.342 | 6.391 | 6.492 |  | 6.349 | 6.398 | 6.498 |
| 5.92 |  | 6.322 | 6.374 | 6.479 |  | 6.334 | 6.384 | 6.488 |  | 6.344 | 6.394 | 6.496 |  | 6.353 | 6.402 | 6.503 |  | 6.360 | 6.409 | 6.509 |
| 5.93 |  | 6.333 | 6.384 | 6.490 |  | 6.345 | 6.395 | 6.499 |  | 6.355 | 6.405 | 6.507 |  | 6.364 | 6.413 | 6.514 |  | 6.371 | 6.420 | 6.520 |
| 5.94 |  | 6.344 | 6.395 | 6.501 |  | 6.356 | 6.406 | 6.510 |  | 6.366 | 6.416 | 6.518 |  | 6.375 | 6.424 | 6.525 |  | 6.382 | 6.431 | 6.531 |
| 5.95 |  | 6.355 | 6.406 | 6.512 |  | 6.367 | 6.417 | 6.521 |  | 6.377 | 6.427 | 6.529 |  | 6.385 | 6.435 | 6.536 |  | 6.393 | 6.442 | 6.543 |
| 5.96 |  | 6.365 | 6.417 | 6.523 |  | 6.378 | 6.428 | 6.533 |  | 6.387 | 6.438 | 6.541 |  | 6.396 | 6.446 | 6.548 |  | 6.404 | 6.453 | 6.554 |
| 5.97 |  | 6.376 | 6.428 | 6.534 |  | 6.388 | 6.439 | 6.544 |  | 6.398 | 6.449 | 6.552 |  | 6.407 | 6.457 | 6.559 |  | 6.415 | 6.464 | 6.565 |
| 5.98 |  | 6.387 | 6.439 | 6.546 |  | 6.399 | 6.450 | 6.555 |  | 6.409 | 6.460 | 6.563 |  | 6.418 | 6.468 | 6.570 |  | 6.426 | 6.475 | 6.576 |
| 5.99 |  | 6.398 | 6.450 | 6.557 |  | 6.410 | 6.461 | 6.566 |  | 6.420 | 6.470 | 6.574 |  | 6.429 | 6.479 | 6.581 |  | 6.437 | 6.486 | 6.587 |
| 6.00 |  | 6.409 | 6.461 | 6.568 |  | 6.421 | 6.472 | 6.577 |  | 6.431 | 6.481 | 6.585 |  | 6.440 | 6.490 | 6.593 |  | 6.448 | 6.497 | 6.599 |

**Appendix. (continued)**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  | | |  |  | | |  |  | | |  |  | | |  |  | | |
|  |  | 0.1 | 0.05 | 0.01 |  | 0.1 | 0.05 | 0.01 |  | 0.1 | 0.05 | 0.01 |  | 0.1 | 0.05 | 0.01 |  | 0.1 | 0.05 | 0.01 |
| 6.01 |  | 6.420 | 6.472 | 6.579 |  | 6.432 | 6.483 | 6.588 |  | 6.442 | 6.492 | 6.597 |  | 6.451 | 6.501 | 6.604 |  | 6.459 | 6.508 | 6.610 |
| 6.02 |  | 6.430 | 6.483 | 6.590 |  | 6.443 | 6.494 | 6.600 |  | 6.453 | 6.503 | 6.608 |  | 6.462 | 6.512 | 6.615 |  | 6.470 | 6.519 | 6.621 |
| 6.03 |  | 6.441 | 6.494 | 6.601 |  | 6.453 | 6.505 | 6.611 |  | 6.464 | 6.514 | 6.619 |  | 6.473 | 6.523 | 6.626 |  | 6.480 | 6.530 | 6.632 |
| 6.04 |  | 6.452 | 6.505 | 6.613 |  | 6.464 | 6.516 | 6.622 |  | 6.475 | 6.525 | 6.630 |  | 6.484 | 6.534 | 6.637 |  | 6.491 | 6.541 | 6.644 |
| 6.05 |  | 6.463 | 6.516 | 6.624 |  | 6.475 | 6.527 | 6.633 |  | 6.485 | 6.536 | 6.641 |  | 6.494 | 6.545 | 6.649 |  | 6.502 | 6.552 | 6.655 |
| 6.06 |  | 6.474 | 6.527 | 6.635 |  | 6.486 | 6.538 | 6.644 |  | 6.496 | 6.547 | 6.653 |  | 6.505 | 6.556 | 6.660 |  | 6.513 | 6.563 | 6.666 |
| 6.07 |  | 6.485 | 6.538 | 6.646 |  | 6.497 | 6.549 | 6.656 |  | 6.507 | 6.558 | 6.664 |  | 6.516 | 6.567 | 6.671 |  | 6.524 | 6.574 | 6.677 |
| 6.08 |  | 6.495 | 6.549 | 6.657 |  | 6.508 | 6.560 | 6.667 |  | 6.518 | 6.569 | 6.675 |  | 6.527 | 6.578 | 6.682 |  | 6.535 | 6.585 | 6.689 |
| 6.09 |  | 6.506 | 6.560 | 6.668 |  | 6.519 | 6.571 | 6.678 |  | 6.529 | 6.580 | 6.686 |  | 6.538 | 6.589 | 6.693 |  | 6.546 | 6.596 | 6.700 |
| 6.10 |  | 6.517 | 6.570 | 6.680 |  | 6.530 | 6.582 | 6.689 |  | 6.540 | 6.591 | 6.697 |  | 6.549 | 6.600 | 6.705 |  | 6.557 | 6.607 | 6.711 |
| 6.11 |  | 6.528 | 6.581 | 6.691 |  | 6.540 | 6.593 | 6.700 |  | 6.551 | 6.602 | 6.709 |  | 6.560 | 6.611 | 6.716 |  | 6.568 | 6.618 | 6.722 |
| 6.12 |  | 6.539 | 6.592 | 6.702 |  | 6.551 | 6.604 | 6.712 |  | 6.562 | 6.613 | 6.720 |  | 6.571 | 6.622 | 6.727 |  | 6.579 | 6.629 | 6.733 |
| 6.13 |  | 6.550 | 6.603 | 6.713 |  | 6.562 | 6.615 | 6.723 |  | 6.572 | 6.624 | 6.731 |  | 6.582 | 6.633 | 6.738 |  | 6.590 | 6.640 | 6.745 |
| 6.14 |  | 6.560 | 6.614 | 6.724 |  | 6.573 | 6.626 | 6.734 |  | 6.583 | 6.635 | 6.742 |  | 6.592 | 6.644 | 6.749 |  | 6.601 | 6.651 | 6.756 |
| 6.15 |  | 6.571 | 6.625 | 6.735 |  | 6.584 | 6.637 | 6.745 |  | 6.594 | 6.646 | 6.753 |  | 6.603 | 6.655 | 6.761 |  | 6.611 | 6.662 | 6.767 |
| 6.16 |  | 6.582 | 6.636 | 6.747 |  | 6.595 | 6.648 | 6.756 |  | 6.605 | 6.657 | 6.765 |  | 6.614 | 6.666 | 6.772 |  | 6.622 | 6.673 | 6.778 |
| 6.17 |  | 6.593 | 6.647 | 6.758 |  | 6.606 | 6.658 | 6.767 |  | 6.616 | 6.668 | 6.776 |  | 6.625 | 6.677 | 6.783 |  | 6.633 | 6.684 | 6.790 |
| 6.18 |  | 6.604 | 6.658 | 6.769 |  | 6.616 | 6.669 | 6.779 |  | 6.627 | 6.679 | 6.787 |  | 6.636 | 6.688 | 6.794 |  | 6.644 | 6.695 | 6.801 |
| 6.19 |  | 6.615 | 6.669 | 6.780 |  | 6.627 | 6.680 | 6.790 |  | 6.638 | 6.690 | 6.798 |  | 6.647 | 6.699 | 6.806 |  | 6.655 | 6.706 | 6.812 |
| 6.20 |  | 6.625 | 6.680 | 6.791 |  | 6.638 | 6.691 | 6.801 |  | 6.649 | 6.701 | 6.809 |  | 6.658 | 6.710 | 6.817 |  | 6.666 | 6.717 | 6.823 |

**Appendix. (continued)**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  | | |  |  | | |  |  | | |  |  | | |  |  | | |
|  |  | 0.1 | 0.05 | 0.01 |  | 0.1 | 0.05 | 0.01 |  | 0.1 | 0.05 | 0.01 |  | 0.1 | 0.05 | 0.01 |  | 0.1 | 0.05 | 0.01 |
| 6.21 |  | 6.636 | 6.691 | 6.802 |  | 6.649 | 6.702 | 6.812 |  | 6.659 | 6.712 | 6.821 |  | 6.669 | 6.721 | 6.828 |  | 6.677 | 6.728 | 6.834 |
| 6.22 |  | 6.647 | 6.702 | 6.814 |  | 6.660 | 6.713 | 6.823 |  | 6.670 | 6.723 | 6.832 |  | 6.680 | 6.732 | 6.839 |  | 6.688 | 6.739 | 6.846 |
| 6.23 |  | 6.658 | 6.713 | 6.825 |  | 6.671 | 6.724 | 6.834 |  | 6.681 | 6.735 | 6.843 |  | 6.691 | 6.743 | 6.850 |  | 6.699 | 6.750 | 6.857 |
| 6.24 |  | 6.669 | 6.724 | 6.836 |  | 6.682 | 6.735 | 6.846 |  | 6.692 | 6.745 | 6.854 |  | 6.702 | 6.754 | 6.862 |  | 6.710 | 6.761 | 6.868 |
| 6.25 |  | 6.680 | 6.735 | 6.847 |  | 6.692 | 6.746 | 6.857 |  | 6.703 | 6.756 | 6.865 |  | 6.712 | 6.765 | 6.873 |  | 6.721 | 6.772 | 6.879 |
| 6.26 |  | 6.690 | 6.746 | 6.858 |  | 6.703 | 6.757 | 6.868 |  | 6.714 | 6.767 | 6.877 |  | 6.723 | 6.776 | 6.884 |  | 6.732 | 6.783 | 6.891 |
| 6.27 |  | 6.701 | 6.757 | 6.869 |  | 6.714 | 6.768 | 6.879 |  | 6.725 | 6.778 | 6.888 |  | 6.734 | 6.787 | 6.895 |  | 6.742 | 6.794 | 6.902 |
| 6.28 |  | 6.712 | 6.767 | 6.881 |  | 6.725 | 6.779 | 6.890 |  | 6.736 | 6.789 | 6.899 |  | 6.745 | 6.798 | 6.906 |  | 6.753 | 6.805 | 6.913 |
| 6.29 |  | 6.723 | 6.778 | 6.892 |  | 6.736 | 6.790 | 6.902 |  | 6.747 | 6.800 | 6.910 |  | 6.756 | 6.809 | 6.918 |  | 6.764 | 6.816 | 6.924 |
| 6.30 |  | 6.734 | 6.789 | 6.903 |  | 6.747 | 6.801 | 6.913 |  | 6.757 | 6.811 | 6.921 |  | 6.767 | 6.820 | 6.929 |  | 6.775 | 6.827 | 6.936 |
| 6.31 |  | 6.745 | 6.800 | 6.914 |  | 6.758 | 6.812 | 6.924 |  | 6.768 | 6.822 | 6.933 |  | 6.778 | 6.831 | 6.940 |  | 6.786 | 6.838 | 6.947 |
| 6.32 |  | 6.755 | 6.811 | 6.925 |  | 6.768 | 6.823 | 6.935 |  | 6.779 | 6.833 | 6.944 |  | 6.789 | 6.842 | 6.951 |  | 6.797 | 6.849 | 6.958 |
| 6.33 |  | 6.766 | 6.822 | 6.936 |  | 6.779 | 6.834 | 6.946 |  | 6.790 | 6.844 | 6.955 |  | 6.800 | 6.853 | 6.963 |  | 6.808 | 6.860 | 6.969 |
| 6.34 |  | 6.777 | 6.833 | 6.948 |  | 6.790 | 6.845 | 6.958 |  | 6.801 | 6.855 | 6.966 |  | 6.811 | 6.864 | 6.974 |  | 6.819 | 6.871 | 6.980 |
| 6.35 |  | 6.788 | 6.844 | 6.959 |  | 6.801 | 6.856 | 6.969 |  | 6.812 | 6.866 | 6.977 |  | 6.821 | 6.875 | 6.985 |  | 6.830 | 6.883 | 6.992 |
| 6.36 |  | 6.799 | 6.855 | 6.970 |  | 6.812 | 6.867 | 6.980 |  | 6.823 | 6.877 | 6.989 |  | 6.832 | 6.886 | 6.996 |  | 6.841 | 6.894 | 7.003 |
| 6.37 |  | 6.810 | 6.866 | 6.981 |  | 6.823 | 6.878 | 6.991 |  | 6.834 | 6.888 | 7.000 |  | 6.843 | 6.897 | 7.007 |  | 6.852 | 6.905 | 7.014 |
| 6.38 |  | 6.820 | 6.877 | 6.992 |  | 6.834 | 6.889 | 7.002 |  | 6.845 | 6.899 | 7.011 |  | 6.854 | 6.908 | 7.019 |  | 6.863 | 6.916 | 7.025 |
| 6.39 |  | 6.831 | 6.888 | 7.003 |  | 6.845 | 6.900 | 7.013 |  | 6.855 | 6.910 | 7.022 |  | 6.865 | 6.919 | 7.030 |  | 6.873 | 6.927 | 7.037 |
| 6.40 |  | 6.842 | 6.899 | 7.015 |  | 6.855 | 6.911 | 7.025 |  | 6.866 | 6.921 | 7.033 |  | 6.876 | 6.930 | 7.041 |  | 6.884 | 6.938 | 7.048 |

**Appendix. (continued)**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  | | |  |  | | |  |  | | |  |  | | |  |  | | |
|  |  | 0.1 | 0.05 | 0.01 |  | 0.1 | 0.05 | 0.01 |  | 0.1 | 0.05 | 0.01 |  | 0.1 | 0.05 | 0.01 |  | 0.1 | 0.05 | 0.01 |
| 6.41 |  | 6.853 | 6.910 | 7.026 |  | 6.866 | 6.922 | 7.036 |  | 6.877 | 6.932 | 7.045 |  | 6.887 | 6.941 | 7.052 |  | 6.895 | 6.949 | 7.059 |
| 6.42 |  | 6.864 | 6.921 | 7.037 |  | 6.877 | 6.933 | 7.047 |  | 6.888 | 6.943 | 7.056 |  | 6.898 | 6.952 | 7.064 |  | 6.906 | 6.960 | 7.070 |
| 6.43 |  | 6.875 | 6.932 | 7.048 |  | 6.888 | 6.944 | 7.058 |  | 6.899 | 6.954 | 7.067 |  | 6.909 | 6.963 | 7.075 |  | 6.917 | 6.971 | 7.082 |
| 6.44 |  | 6.886 | 6.943 | 7.059 |  | 6.899 | 6.955 | 7.069 |  | 6.910 | 6.965 | 7.078 |  | 6.920 | 6.974 | 7.086 |  | 6.928 | 6.982 | 7.093 |
| 6.45 |  | 6.897 | 6.954 | 7.070 |  | 6.910 | 6.966 | 7.081 |  | 6.921 | 6.976 | 7.089 |  | 6.931 | 6.985 | 7.097 |  | 6.939 | 6.993 | 7.104 |
| 6.46 |  | 6.907 | 6.964 | 7.082 |  | 6.920 | 6.977 | 7.092 |  | 6.932 | 6.987 | 7.101 |  | 6.941 | 6.996 | 7.108 |  | 6.950 | 7.004 | 7.115 |
| 6.47 |  | 6.918 | 6.975 | 7.093 |  | 6.931 | 6.988 | 7.103 |  | 6.942 | 6.998 | 7.112 |  | 6.952 | 7.007 | 7.120 |  | 6.961 | 7.015 | 7.126 |
| 6.48 |  | 6.929 | 6.986 | 7.104 |  | 6.942 | 6.999 | 7.114 |  | 6.953 | 7.009 | 7.123 |  | 6.963 | 7.018 | 7.131 |  | 6.972 | 7.026 | 7.138 |
| 6.49 |  | 6.940 | 6.997 | 7.115 |  | 6.953 | 7.009 | 7.125 |  | 6.964 | 7.020 | 7.134 |  | 6.974 | 7.029 | 7.142 |  | 6.983 | 7.037 | 7.149 |
| 6.50 |  | 6.951 | 7.008 | 7.126 |  | 6.964 | 7.020 | 7.137 |  | 6.975 | 7.031 | 7.146 |  | 6.985 | 7.040 | 7.153 |  | 6.994 | 7.048 | 7.160 |
| 6.51 |  | 6.961 | 7.019 | 7.137 |  | 6.975 | 7.031 | 7.148 |  | 6.986 | 7.042 | 7.157 |  | 6.996 | 7.051 | 7.164 |  | 7.005 | 7.059 | 7.171 |
| 6.52 |  | 6.972 | 7.030 | 7.149 |  | 6.986 | 7.042 | 7.159 |  | 6.997 | 7.053 | 7.168 |  | 7.007 | 7.062 | 7.176 |  | 7.015 | 7.070 | 7.183 |
| 6.53 |  | 6.983 | 7.041 | 7.160 |  | 6.997 | 7.053 | 7.170 |  | 7.008 | 7.064 | 7.179 |  | 7.018 | 7.073 | 7.187 |  | 7.026 | 7.081 | 7.194 |
| 6.54 |  | 6.994 | 7.052 | 7.171 |  | 7.008 | 7.064 | 7.181 |  | 7.019 | 7.075 | 7.190 |  | 7.029 | 7.084 | 7.198 |  | 7.037 | 7.092 | 7.205 |
| 6.55 |  | 7.005 | 7.063 | 7.182 |  | 7.018 | 7.075 | 7.193 |  | 7.030 | 7.086 | 7.202 |  | 7.040 | 7.095 | 7.209 |  | 7.048 | 7.103 | 7.216 |
| 6.56 |  | 7.016 | 7.074 | 7.193 |  | 7.029 | 7.086 | 7.204 |  | 7.040 | 7.097 | 7.213 |  | 7.050 | 7.106 | 7.221 |  | 7.059 | 7.114 | 7.228 |
| 6.57 |  | 7.026 | 7.085 | 7.204 |  | 7.040 | 7.097 | 7.215 |  | 7.051 | 7.108 | 7.224 |  | 7.061 | 7.117 | 7.232 |  | 7.070 | 7.125 | 7.239 |
| 6.58 |  | 7.037 | 7.096 | 7.216 |  | 7.051 | 7.108 | 7.226 |  | 7.062 | 7.119 | 7.235 |  | 7.072 | 7.128 | 7.243 |  | 7.081 | 7.136 | 7.250 |
| 6.59 |  | 7.048 | 7.107 | 7.227 |  | 7.062 | 7.119 | 7.237 |  | 7.073 | 7.130 | 7.246 |  | 7.083 | 7.139 | 7.254 |  | 7.092 | 7.147 | 7.261 |
| 6.60 |  | 7.059 | 7.118 | 7.238 |  | 7.073 | 7.130 | 7.249 |  | 7.084 | 7.141 | 7.258 |  | 7.094 | 7.150 | 7.265 |  | 7.103 | 7.158 | 7.272 |

**Appendix. (continued)**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  | | |  |  | | |  |  | | |  |  | | |  |  | | |
|  |  | 0.1 | 0.05 | 0.01 |  | 0.1 | 0.05 | 0.01 |  | 0.1 | 0.05 | 0.01 |  | 0.1 | 0.05 | 0.01 |  | 0.1 | 0.05 | 0.01 |
| 6.61 |  | 7.070 | 7.129 | 7.249 |  | 7.084 | 7.141 | 7.260 |  | 7.095 | 7.152 | 7.269 |  | 7.105 | 7.161 | 7.277 |  | 7.114 | 7.169 | 7.284 |
| 6.62 |  | 7.081 | 7.140 | 7.260 |  | 7.094 | 7.152 | 7.271 |  | 7.106 | 7.163 | 7.280 |  | 7.116 | 7.172 | 7.288 |  | 7.125 | 7.180 | 7.295 |
| 6.63 |  | 7.092 | 7.151 | 7.271 |  | 7.105 | 7.163 | 7.282 |  | 7.117 | 7.174 | 7.291 |  | 7.127 | 7.183 | 7.299 |  | 7.136 | 7.191 | 7.306 |
| 6.64 |  | 7.102 | 7.162 | 7.283 |  | 7.116 | 7.174 | 7.293 |  | 7.128 | 7.185 | 7.302 |  | 7.138 | 7.194 | 7.310 |  | 7.146 | 7.202 | 7.317 |
| 6.65 |  | 7.113 | 7.173 | 7.294 |  | 7.127 | 7.185 | 7.304 |  | 7.138 | 7.196 | 7.314 |  | 7.149 | 7.205 | 7.322 |  | 7.157 | 7.213 | 7.329 |
| 6.66 |  | 7.124 | 7.183 | 7.305 |  | 7.138 | 7.196 | 7.316 |  | 7.149 | 7.207 | 7.325 |  | 7.159 | 7.216 | 7.333 |  | 7.168 | 7.224 | 7.340 |
| 6.67 |  | 7.135 | 7.194 | 7.316 |  | 7.149 | 7.207 | 7.327 |  | 7.160 | 7.218 | 7.336 |  | 7.170 | 7.227 | 7.344 |  | 7.179 | 7.235 | 7.351 |
| 6.68 |  | 7.146 | 7.205 | 7.327 |  | 7.160 | 7.218 | 7.338 |  | 7.171 | 7.229 | 7.347 |  | 7.181 | 7.238 | 7.355 |  | 7.190 | 7.246 | 7.362 |
| 6.69 |  | 7.157 | 7.216 | 7.338 |  | 7.171 | 7.229 | 7.349 |  | 7.182 | 7.240 | 7.358 |  | 7.192 | 7.249 | 7.366 |  | 7.201 | 7.257 | 7.374 |
| 6.70 |  | 7.167 | 7.227 | 7.350 |  | 7.181 | 7.240 | 7.361 |  | 7.193 | 7.251 | 7.370 |  | 7.203 | 7.260 | 7.378 |  | 7.212 | 7.268 | 7.385 |
| 6.71 |  | 7.178 | 7.238 | 7.361 |  | 7.192 | 7.251 | 7.372 |  | 7.204 | 7.262 | 7.381 |  | 7.214 | 7.271 | 7.389 |  | 7.223 | 7.279 | 7.396 |
| 6.72 |  | 7.189 | 7.249 | 7.372 |  | 7.203 | 7.262 | 7.383 |  | 7.215 | 7.273 | 7.392 |  | 7.225 | 7.282 | 7.400 |  | 7.234 | 7.290 | 7.407 |
| 6.73 |  | 7.200 | 7.260 | 7.383 |  | 7.214 | 7.273 | 7.394 |  | 7.226 | 7.284 | 7.403 |  | 7.236 | 7.293 | 7.411 |  | 7.245 | 7.301 | 7.419 |
| 6.74 |  | 7.211 | 7.271 | 7.394 |  | 7.225 | 7.284 | 7.405 |  | 7.236 | 7.295 | 7.415 |  | 7.247 | 7.304 | 7.423 |  | 7.256 | 7.312 | 7.430 |
| 6.75 |  | 7.222 | 7.282 | 7.406 |  | 7.236 | 7.295 | 7.416 |  | 7.247 | 7.306 | 7.426 |  | 7.258 | 7.315 | 7.434 |  | 7.267 | 7.323 | 7.441 |
| 6.76 |  | 7.232 | 7.293 | 7.417 |  | 7.247 | 7.306 | 7.428 |  | 7.258 | 7.317 | 7.437 |  | 7.269 | 7.326 | 7.445 |  | 7.278 | 7.334 | 7.452 |
| 6.77 |  | 7.243 | 7.304 | 7.428 |  | 7.257 | 7.317 | 7.439 |  | 7.269 | 7.328 | 7.448 |  | 7.279 | 7.337 | 7.456 |  | 7.288 | 7.345 | 7.464 |
| 6.78 |  | 7.254 | 7.315 | 7.439 |  | 7.268 | 7.328 | 7.450 |  | 7.280 | 7.339 | 7.459 |  | 7.290 | 7.348 | 7.468 |  | 7.299 | 7.357 | 7.475 |
| 6.79 |  | 7.265 | 7.326 | 7.450 |  | 7.279 | 7.339 | 7.461 |  | 7.291 | 7.350 | 7.470 |  | 7.301 | 7.359 | 7.479 |  | 7.310 | 7.368 | 7.486 |
| 6.80 |  | 7.276 | 7.337 | 7.461 |  | 7.290 | 7.350 | 7.472 |  | 7.302 | 7.361 | 7.482 |  | 7.312 | 7.370 | 7.490 |  | 7.321 | 7.379 | 7.497 |

**Appendix. (continued)**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  | | |  |  | | |  |  | | |  |  | | |  |  | | |
|  |  | 0.1 | 0.05 | 0.01 |  | 0.1 | 0.05 | 0.01 |  | 0.1 | 0.05 | 0.01 |  | 0.1 | 0.05 | 0.01 |  | 0.1 | 0.05 | 0.01 |
| 6.81 |  | 7.287 | 7.348 | 7.473 |  | 7.301 | 7.361 | 7.484 |  | 7.313 | 7.372 | 7.493 |  | 7.323 | 7.381 | 7.501 |  | 7.332 | 7.390 | 7.508 |
| 6.82 |  | 7.298 | 7.359 | 7.484 |  | 7.312 | 7.372 | 7.495 |  | 7.324 | 7.383 | 7.504 |  | 7.334 | 7.392 | 7.512 |  | 7.343 | 7.401 | 7.520 |
| 6.83 |  | 7.308 | 7.370 | 7.495 |  | 7.323 | 7.383 | 7.506 |  | 7.334 | 7.394 | 7.515 |  | 7.345 | 7.403 | 7.524 |  | 7.354 | 7.412 | 7.531 |
| 6.84 |  | 7.319 | 7.381 | 7.506 |  | 7.334 | 7.394 | 7.517 |  | 7.345 | 7.405 | 7.527 |  | 7.356 | 7.414 | 7.535 |  | 7.365 | 7.423 | 7.542 |
| 6.85 |  | 7.330 | 7.392 | 7.517 |  | 7.345 | 7.405 | 7.528 |  | 7.356 | 7.416 | 7.538 |  | 7.367 | 7.425 | 7.546 |  | 7.376 | 7.434 | 7.553 |
| 6.86 |  | 7.341 | 7.403 | 7.528 |  | 7.355 | 7.416 | 7.539 |  | 7.367 | 7.427 | 7.549 |  | 7.378 | 7.436 | 7.557 |  | 7.387 | 7.445 | 7.565 |
| 6.87 |  | 7.352 | 7.413 | 7.540 |  | 7.366 | 7.426 | 7.551 |  | 7.378 | 7.438 | 7.560 |  | 7.389 | 7.447 | 7.569 |  | 7.398 | 7.456 | 7.576 |
| 6.88 |  | 7.363 | 7.424 | 7.551 |  | 7.377 | 7.437 | 7.562 |  | 7.389 | 7.449 | 7.571 |  | 7.399 | 7.458 | 7.580 |  | 7.409 | 7.467 | 7.587 |
| 6.89 |  | 7.373 | 7.435 | 7.562 |  | 7.388 | 7.448 | 7.573 |  | 7.400 | 7.460 | 7.583 |  | 7.410 | 7.469 | 7.591 |  | 7.420 | 7.478 | 7.598 |
| 6.90 |  | 7.384 | 7.446 | 7.573 |  | 7.399 | 7.459 | 7.584 |  | 7.411 | 7.471 | 7.594 |  | 7.421 | 7.480 | 7.602 |  | 7.431 | 7.489 | 7.610 |
| 6.91 |  | 7.395 | 7.457 | 7.584 |  | 7.410 | 7.470 | 7.595 |  | 7.422 | 7.482 | 7.605 |  | 7.432 | 7.491 | 7.613 |  | 7.441 | 7.500 | 7.621 |
| 6.92 |  | 7.406 | 7.468 | 7.595 |  | 7.421 | 7.481 | 7.607 |  | 7.432 | 7.493 | 7.616 |  | 7.443 | 7.502 | 7.625 |  | 7.452 | 7.511 | 7.632 |
| 6.93 |  | 7.417 | 7.479 | 7.607 |  | 7.431 | 7.492 | 7.618 |  | 7.443 | 7.504 | 7.628 |  | 7.454 | 7.513 | 7.636 |  | 7.463 | 7.522 | 7.643 |
| 6.94 |  | 7.428 | 7.490 | 7.618 |  | 7.442 | 7.503 | 7.629 |  | 7.454 | 7.515 | 7.639 |  | 7.465 | 7.524 | 7.647 |  | 7.474 | 7.533 | 7.655 |
| 6.95 |  | 7.438 | 7.501 | 7.629 |  | 7.453 | 7.514 | 7.640 |  | 7.465 | 7.526 | 7.650 |  | 7.476 | 7.535 | 7.658 |  | 7.485 | 7.544 | 7.666 |
| 6.96 |  | 7.449 | 7.512 | 7.640 |  | 7.464 | 7.525 | 7.651 |  | 7.476 | 7.537 | 7.661 |  | 7.487 | 7.546 | 7.770 |  | 7.496 | 7.555 | 7.677 |
| 6.97 |  | 7.460 | 7.523 | 7.651 |  | 7.475 | 7.536 | 7.663 |  | 7.487 | 7.548 | 7.672 |  | 7.498 | 7.557 | 7.681 |  | 7.507 | 7.566 | 7.688 |
| 6.98 |  | 7.471 | 7.534 | 7.663 |  | 7.486 | 7.547 | 7.674 |  | 7.498 | 7.559 | 7.684 |  | 7.509 | 7.568 | 7.592 |  | 7.518 | 7.577 | 7.700 |
| 6.99 |  | 7.482 | 7.545 | 7.674 |  | 7.497 | 7.558 | 7.685 |  | 7.509 | 7.570 | 7.695 |  | 7.520 | 7.579 | 7.503 |  | 7.529 | 7.588 | 7.711 |
| 7.00 |  | 7.493 | 7.556 | 7.685 |  | 7.507 | 7.569 | 7.696 |  | 7.520 | 7.581 | 7.706 |  | 7.530 | 7.590 | 7.414 |  | 7.540 | 7.599 | 7.722 |