

$-\zeta$	$z(\zeta)$	$h(\zeta)$	$f_1(\zeta)$	$F_1(\zeta)$	$(-\zeta)g_1(\zeta)$	$(-\zeta)^3g_2(\zeta)$	$(-\zeta)^2G_1(\zeta)$
0.0	1.000000	1.25992	0.0143	-0.007	-0.1260	-0.010	0.000
0.2	1.166284	1.22076	.0142	-.005	-.1335	-.010	.002
0.4	1.347557	1.18337	.0139	-.004	-.1399	-.009	.004
0.6	1.543615	1.14780	.0135	-.003	-.1453	-.009	.005
0.8	1.754187	1.11409	.0131	-.003	-.1498	-.008	.006
1.0	1.978963	1.08220	0.0126	-0.002	-0.1533	-0.008	0.006

  

$-\zeta$	$z(\zeta)$	$h(\zeta)$	$f_1(\zeta)$	$F_1(\zeta)$	$g_1(\zeta)$	$g_2(\zeta)$	$G_1(\zeta)$
1.0	1.978963	1.08220	0.0126	-0.002	-0.1533	-0.008	0.006
1.2	2.217607	1.05208	.0121	-.002	-.1301	-.004	.004
1.4	2.469770	1.02367	.0115	-.001	-.1130	-.002	.003
1.6	2.735103	0.99687	.0110	-.001	-.0998	-.001	.002
1.8	3.013256	.97159	.0105	-.001	-.0893	-.001	.002
2.0	3.303889	0.94775	0.0100	-0.001	-0.0807	-0.001	0.001
2.2	3.606673	.92524	.0095	-0.001	-.0734		.001
2.4	3.921292	.90397	.0091		-.0673		.001
2.6	4.247441	.88387	.0086		-.0619		.001
2.8	4.584833	.86484	.0082		-.0573		0.001
3.0	4.933192	0.84681	0.0078		-0.0533		
3.2	5.292257	.82972	.0075		-.0497		
3.4	5.661780	.81348	.0071		-.0464		
3.6	6.041525	.79806	.0068		-.0436		
3.8	6.431269	.78338	.0065		-.0410		
4.0	6.830800	0.76939	0.0062		-0.0386		
4.2	7.239917	.75605	.0060		-.0365		
4.4	7.658427	.74332	.0057		-.0345		
4.6	8.086150	.73115	.0055		-.0328		
4.8	8.522912	.71951	.0052		-.0311		
5.0	8.968548	0.70836	0.0050		-0.0296		
5.2	9.422900	.69768	.0048		-.0282		
5.4	9.885820	.68742	.0047		-.0270		
5.6	10.357162	.67758	.0045		-.0258		
5.8	10.836791	.66811	.0043		-.0246		
6.0	11.324575	0.65901	0.0042		-0.0236		
6.2	11.820388	.65024	.0040		-.0227		
6.4	12.324111	.64180	.0039		-.0218		
6.6	12.835627	.63366	.0037		-.0209		
6.8	13.354826	.62580	.0036		-.0201		
7.0	13.881601	0.61821	0.0035		-0.0194		

$(-\zeta)^{-\frac{1}{2}}$	$z(\zeta) - \frac{2}{3}(-\zeta)^{\frac{3}{2}}$	$(-\zeta)^{\frac{1}{2}}h(\zeta)$	$f_1(\zeta)$	$g_1(\zeta)$
0.40	1.528915	1.62026	0.0040	-0.0224
.35	1.541532	1.65351	.0029	-.0158
.30	1.551741	1.68067	.0020	-.0104
.25	1.559490	1.70146	.0012	-.0062
.20	1.564907	1.71607	.0006	-.0033
0.15	1.568285	1.72523	0.0003	-0.0014
.10	1.570048	1.73002	.0001	-.0004
.05	1.570703	1.73180	.0000	-.0001
.00	1.570796	1.73205	.0000	-.0000

**Maximum Values of Higher Coefficients**

$|f_2(\zeta)| = .001, |F_2(\zeta)| = .0004 \quad (0 \leq -\zeta < \infty)$   
 $|g_3(\zeta)| = .001, |G_2(\zeta)| = .0007 \quad (1 \leq -\zeta < \infty)$   
 $|(-\zeta)^6g_3(\zeta)| = .002, |(-\zeta)^4G_2(\zeta)| = .0007$   
 $(0 \leq -\zeta \leq 1)$

**Complex Zeros of  $J_\nu(x)$**

When  $\nu \geq -1$  the zeros of  $J_\nu(z)$  are all real. If  $\nu < -1$  and  $\nu$  is not an integer the number of complex zeros of  $J_\nu(z)$  is twice the integer part of  $(-\nu)$ ; if the integer part of  $(-\nu)$  is odd two of these zeros lie on the imaginary axis.

If  $\nu \geq 0$ , all zeros of  $J'_\nu(z)$  are real.

**Complex Zeros of  $Y_\nu(x)$**

When  $\nu$  is real the pattern of the complex zeros of  $Y_\nu(z)$  and  $Y'_\nu(z)$  depends on the non-integer part of  $\nu$ . Attention is confined here to the case  $\nu = n$ , a positive integer or zero.