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H-2

$\sigma_1, \sigma_2, \psi_1, \psi_2, m_2/m_1, H_2'/H_1'$ Tables

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These tables are useful for cases in which sector lengths and gradients and fields change.

The tables are for the following equations

$$\cos\sigma_1 = \cos\psi_1 \cosh\psi_2 + \frac{\rho-1}{2\sqrt{\rho}} \sin\psi_1 \sinh\psi_2$$

$$\cos\sigma_2 = \cos\psi_2 \cosh\psi_1 - \frac{\rho-1}{2\sqrt{\rho}} \sin\psi_2 \sinh\psi_1$$

where in terms of m_1, m_2 AND θ_1, θ_2, the angles subtended by the sector segments:

$$\rho \equiv \left|\frac{m_2}{m_1}\right|$$

$$\psi_1 = \sqrt{|m_1|}\,\theta_1 \quad , \psi_2 = \sqrt{|m_2|}\,\theta_2$$

$$\theta_1/\theta_2 = \sqrt{\rho}\,\psi_1/\psi_2$$

(the table gives $\rho\,\psi_1/\psi_2$)

or in case θ is not the proper independent variable because the radius of curvature changes and arc length must be used instead, as with the differential equation $\frac{d^2x}{ds^2} \pm n/\rho^2 = 0$:

$$\rho \equiv H_2'/H_1'$$

where $H' \equiv \frac{\partial H}{\partial R}$ is the field gradient.

$$\left.\begin{aligned} \psi_1 &= \sqrt{H_1'}\,(s_1/\sqrt{H\rho}) \\ \psi_2 &= \sqrt{H_2'}\,(s_2/\sqrt{H\rho}) \end{aligned}\right\} H\rho \sim \text{momentum is a constant from sector to sector.}$$

$$s_1/s_2 = \sqrt{\rho}\;\psi_1/\psi_2$$

Rec'd NOV 15 1954
Action
Answer

$\rho = .1$

σ_2	ψ_1	ψ_2	$\rho\psi_1/\psi_2$	
π	.6763229	2.9362412	.023034	$\sigma_1 = \pi$
$5\pi/6$	.6835570	2.8336196	.024123	
$\pi/2$	.7379771	2.3000353	.032085	
$\pi/3$	.7798686	2.0379639	.038267	
$\pi/4$	.8005550	1.9339444	.041395	
$\pi/6$	.8180496	1.8554115	.044090	
$\pi/20$	.8325068	1.7959393	.046355	
π	.6679906	2.9385750	.022732	$\sigma_1 = 5\pi/6$
$5\pi/6$	.6743977	2.8347192	.023791	
$\pi/2$	.7232550	2.2928685	.031544	
$\pi/3$	.7617634	2.0242686	.037632	
$\pi/4$	.7810914	1.9169108	.040747	
$\pi/6$	.7976044	1.8355051	.043454	
$\pi/20$	.8113681	1.7736308	.045746	
π	.6151163	2.9535417	.020826	$\sigma_1 = \pi/2$
$5\pi/6$	.6157629	2.8411140	.021673	
$\pi/2$	.6233038	2.2378912	.027852	
$\pi/3$	.6331682	1.9140448	.033080	
$\pi/4$	.6398074	1.7755730	.036034	
$\pi/6$	.6465903	1.6655856	.038821	
$\pi/20$	.6531636	1.5783836	.041382	
π	.5853101	2.9620941	.019760	$\sigma_1 = \pi/3$
$5\pi/6$	.5822463	2.8441727	.020472	
$\pi/2$	.5600044	2.1967065	.025493	
$\pi/3$	.5434694	1.8222508	.029824	
$\pi/4$	.5356564	1.6490655	.032482	
$\pi/6$	.5295238	1.5019553	.035256	
$\pi/20$	.5251410	1.3765249	.038150	
π	.5731065	2.9656188	.019325	$\sigma_1 = \pi/4$
$5\pi/6$	.5684082	2.8452846	.019977	
$\pi/2$	.5319598	2.1767002	.024439	
$\pi/3$	.5001065	1.7730965	.028205	
$\pi/4$	.4820297	1.5758910	.030588	
$\pi/6$	.4649064	1.3982909	.033248	
$\pi/20$	.4491627	1.2345185	.036384	
π	.5637966	2.9683166	.018994	$\sigma_1 = \pi/6$
$5\pi/6$	.5578014	2.8460710	.019599	
$\pi/2$	.5094940	2.1598478	.023589	
$\pi/3$	.4629014	1.7283748	.026782	
$\pi/4$	.4330382	1.5042323	.028788	
$\pi/6$	.4004390	1.2852897	.031156	
$\pi/20$	.3631765	1.0519170	.034525	
π	.5567002	2.9703780	.018742	$\sigma_1 = \pi/20$
$5\pi/6$	.5496856	2.8466320	.019310	
$\pi/2$	.4916377	2.1459120	.022910	
$\pi/3$	.4311748	1.6883842	.025538	
$\pi/4$	.3877959	1.4341420	.027040	
$\pi/6$				
$\pi/20$				

$\zeta = 1/2$

σ_2	ψ_1	ψ_2	$\zeta\psi_1/\psi_2$	
π	1.4207758	2.3260473	.305406	
$5\pi/6$	1.4345247	2.2580362	.317649	
$\pi/2$	1.5311079	1.8822677	.406719	
$\pi/3$	1.5941219	1.6989784	.469141	$\sigma_1 = \pi$
$\pi/4$	1.6218380	1.6284178	.497980	
$\pi/6$	1.6437236	1.5762034	.521419	
$\pi/20$	1.6608276	1.5373145	.540172	
π	1.3942239	2.3360665	.298413	
$5\pi/6$	1.4063316	2.2666030	.310229	
$\pi/2$	1.4925430	1.8800806	.396936	
$\pi/3$	1.5500655	1.6888122	.458922	$\sigma_1 = 5\pi/6$
$\pi/4$	1.5757138	1.6144982	.487989	
$\pi/6$	1.5961194	1.5592236	.511831	
$\pi/20$	1.6121611	1.5178876	.531054	
π	1.2360986	2.4000602	.257514	
$5\pi/6$	1.2369680	2.3213657	.266431	
$\pi/2$	1.2458559	1.8617955	.334585	
$\pi/3$	1.2554294	1.6074983	.390492	$\sigma_1 = \pi/2$
$\pi/4$	1.2610739	1.5000501	.420344	
$\pi/6$	1.2663536	1.4158132	.447218	
$\pi/20$	1.2710872	1.3499172	.470802	
π	1.1536677	2.4364409	.236753	
$5\pi/6$	1.1474271	2.3524936	.243875	
$\pi/2$	1.0998756	1.8465878	.297813	
$\pi/3$	1.0625227	1.5400610	.344961	$\sigma_1 = \pi/3$
$\pi/4$	1.0434866	1.3982153	.373149	
$\pi/6$	1.0269610	1.2785096	.401624	
$\pi/20$	1.0129927	1.1774447	.430166	
π	1.1211130	2.4513914	.228669	
$5\pi/6$	1.1117671	2.3652725	.235019	
$\pi/2$	1.0371211	1.8388112	.282009	$\sigma_1 = \pi/4$
$\pi/3$	0.9716132	1.5040626	.322996	
$\pi/4$	0.9341786	1.3394845	.348708	
$\pi/6$	0.8981184	1.1916115	.376850	
$\pi/20$	0.8637790	1.0561677	.408921	
π	1.0967107	2.4628158	.222654	
$5\pi/6$	1.0849121	2.3750291	.228400	
$\pi/2$	0.9875907	1.8320871	.269526	
$\pi/3$	0.8945286	1.4714274	.303966	$\sigma_1 = \pi/6$
$\pi/4$	0.8353846	1.2821669	.325771	
$\pi/6$	0.7709686	1.0969994	.351399	
$\pi/20$	0.6969331	0.9001444	.387123	
π	1.0783525	2.4715339	.218155	
$5\pi/6$	1.0646330	2.3824684	.223431	
$\pi/2$	0.9486585	1.8264172	.259705	
$\pi/3$	0.8293506	1.4423778	.287494	$\sigma_1 = \pi/20$
$\pi/4$	0.7447949	1.2263981	.303651	
$\pi/6$	0.6354189	0.9876352	.321687	
$\pi/20$	0.4255633	0.6021675	.353360	

$\zeta = .7$

σ_2	ψ_1	ψ_2	$\zeta\psi_1/\psi_2$	
π	1.6348370	2.1151033	.541054	
$5\pi/6$	1.6491916	2.0580286	.560942	
$\pi/2$	1.7470025	1.7379349	.703652	
$\pi/3$	1.8077311	1.5809492	.800413	
$\pi/4$	1.8337377	1.5205303	.844190	$\sigma_1 = \pi$
$\pi/6$	1.8539992	1.4758226	.879374	
$\pi/20$	1.8696771	1.4425197	.907283	
π	1.6001037	2.1273319	.526515	
$5\pi/6$	1.6127240	2.0686677	.545717	
$\pi/2$	1.6998215	1.7369504	.685037	
$\pi/3$	1.7549901	1.5717820	.781593	
$\pi/4$	1.7788869	1.5076246	.825949	$\sigma_1 = 5\pi/6$
$\pi/6$	1.7976180	1.4599098	.861925	
$\pi/20$	1.8121798	1.4242243	.890678	
π	1.3975610	2.2063098	.443407	
$5\pi/6$	1.3981646	2.1378135	.457811	
$\pi/2$	1.4040362	1.7283647	.568645	
$\pi/3$	1.4099509	1.4990173	.658408	
$\pi/4$	1.4133014	1.4020806	.705602	$\sigma_1 = \pi/2$
$\pi/6$	1.4163628	1.3261400	.747624	
$\pi/20$	1.4190561	1.2667800	.784145	
π	1.2945322	2.2518403	.402414	
$5\pi/6$	1.2874137	2.1780079	.413768	
$\pi/2$	1.2323838	1.7208450	.501305	
$\pi/3$	1.1884118	1.4391315	.578049	
$\pi/4$	1.1656174	1.3084702	.623577	$\sigma_1 = \pi/3$
$\pi/6$	1.1454831	1.1982407	.669180	
$\pi/20$	1.1280866	1.1052751	.714447	
π	1.2542848	2.2706645	.386671	
$5\pi/6$	1.2437749	2.1946903	.396704	
$\pi/2$	1.1591474	1.7168975	.472598	
$\pi/3$	1.0846631	1.4073306	.539507	$\sigma_1 = \pi/4$
$\pi/4$	1.0419935	1.2545756	.581388	
$\pi/6$	1.0007197	1.1172718	.626977	
$\pi/20$	0.9611277	0.9916077	.678483	
π	1.2242766	2.2850883	.375037	
$5\pi/6$	1.2110828	2.2074962	.384036	
$\pi/2$	1.1015519	1.7134377	.450023	
$\pi/3$	0.9969128	1.3786262	.506184	$\sigma_1 = \pi/6$
$\pi/4$	0.9305260	1.2020850	.541865	
$\pi/6$	0.8582464	1.0291294	.583768	
$\pi/20$	0.7750466	0.8452613	.641852	
π	1.2017910	2.2961164	.366381	
$5\pi/6$	1.1864928	2.2173000	.374575	
$\pi/2$	1.0564033	1.7104902	.432322	
$\pi/3$	0.9228387	1.3531980	.477378	$\sigma_1 = \pi/20$
$\pi/4$	0.8284446	1.1511715	.503757	
$\pi/6$	0.7065610	0.9273640	.533332	
$\pi/20$	0.4730542	0.5655720	.585492	

$\zeta = .9$

σ_2	ψ_1	ψ_2	$\zeta\psi_1/\psi_2$	
π	1.8034145	1.9467915	0.833717	
$5\pi/6$	1.8175723	1.8980364	0.861846	
$\pi/2$	1.9118958	1.6212048	1.061375	
$\pi/3$	1.9685718	1.4842018	1.193715	
$\pi/4$	1.9924533	1.4313091	1.252845	$\sigma_1 = \pi$
$\pi/6$	2.0109147	1.3921050	1.300062	
$\pi/20$	2.0251193	1.3628616	1.337339	
π	1.7613685	1.9602984	0.808669	
$5\pi/6$	1.7737942	1.9098597	0.835881	
$\pi/2$	1.8575212	1.6209527	1.031350	
$\pi/3$	1.9086880	1.4757779	1.164009	$\sigma_1 = 5\pi/6$
$\pi/4$	1.9304468	1.4192198	1.224195	
$\pi/6$	1.9473474	1.3770905	1.272692	
$\pi/20$	1.9603982	1.3455413	1.311263	
π	1.5198582	2.0488269	0.667637	
$5\pi/6$	1.5200760	1.9880870	0.688133	
$\pi/2$	1.5221130	1.6186716	0.846312	
$\pi/3$	1.5240615	1.4094461	0.973188	$\sigma_1 = \pi/2$
$\pi/4$	1.5251336	1.3208407	1.039202	
$\pi/6$	1.5260972	1.2513881	1.097571	
$\pi/20$	1.5269341	1.1970798	1.147994	
π	1.3990079	2.1008503	0.599332	
$5\pi/6$	1.3911918	2.0346787	0.615366	
$\pi/2$	1.3301345	1.6165795	0.740527	
$\pi/3$	1.2807539	1.3553205	0.850484	$\sigma_1 = \pi/3$
$\pi/4$	1.2548826	1.2338231	0.915362	
$\pi/6$	1.2318022	1.1312852	0.979967	
$\pi/20$	1.2116240	1.0448214	1.043682	
π	1.3521364	2.1225446	0.573332	
$5\pi/6$	1.3407590	2.0542432	0.587410	
$\pi/2$	1.2486023	1.6154544	0.695620	
$\pi/3$	1.1672785	1.3267600	0.791817	
$\pi/4$	1.1206028	1.1838046	0.851950	$\sigma_1 = \pi/4$
$\pi/6$	1.0753281	1.0552140	0.917156	
$\pi/20$	1.0316957	0.9375420	0.990384	
π	1.3173137	2.1392335	0.554209	
$5\pi/6$	1.3031077	2.0693464	0.566748	
$\pi/2$	1.1846184	1.6144556	0.660382	
$\pi/3$	1.0714366	1.3011191	0.741126	
$\pi/4$	0.9997034	1.1351880	0.792585	$\sigma_1 = \pi/6$
$\pi/6$	0.9216140	0.9724060	0.852990	
$\pi/20$	0.8316260	0.7993054	0.936392	
π	1.2912911	2.1520295	0.540031	
$5\pi/6$	1.2748623	2.0809570	0.551369	
$\pi/2$	1.1345422	1.6135963	0.632803	
$\pi/3$	0.9905964	1.2785404	0.697308	
$\pi/4$	0.8890485	1.0881813	0.735304	$\sigma_1 = \pi/20$
$\pi/6$	0.7580844	0.8768947	0.778059	
$\pi/20$	0.5074317	0.5349264	0.853741	

Expanded $\mathcal{S} = 1$ Table

$\mathcal{S} = 1.$

σ_2	ψ_1	ψ_2
$\pi/24$	4760024	4760026
$2\pi/24$	5876332	6090494
$3\pi/24$	6873032	7352074
$4\pi/24$	7725020	8508846
$5\pi/24$	8458580	9581094
$6\pi/24$	9097084	10587240
$7\pi/24$	9657807	11540081
$8\pi/24$	10153435	12448061
$9\pi/24$	10593486	13316538
$10\pi/24$	10985276	14148632
$11\pi/24$	11334551	14945760
$12\pi/24$	11645899	15707963
$13\pi/24$	11923026	16434114
$14\pi/24$	12168946	17122041
$15\pi/24$	12386114	17768620
$16\pi/24$	12576520	18369845
$17\pi/24$	12741759	18920913
$18\pi/24$	12883082	19416352
$19\pi/24$	13001450	19850210
$20\pi/24$	13097567	20216330
$21\pi/24$	13171926	20508715
$22\pi/24$	13224854	20721975
$23\pi/24$	13256543	20851800
$24\pi/24$	13267096	20895398

$\sigma_1 = \pi/24$

σ_2	ψ_1	ψ_2
$2\pi/24$	6725074	6725074
$3\pi/24$	7447932	7728081
$4\pi/24$	8144124	8745755
$5\pi/24$	8781889	9736937
$6\pi/24$	9357045	10692186
$7\pi/24$	9873349	11611110
$8\pi/24$	10336368	12495409
$9\pi/24$	10751600	13346731
$10\pi/24$	11123959	14166028
$11\pi/24$	11457677	14953378
$12\pi/24$	11756351	15707963
$13\pi/24$	12023016	16428081
$14\pi/24$	12260220	17111168
$15\pi/24$	12470086	17753822
$16\pi/24$	12654362	18351837
$17\pi/24$	12814469	18900272
$18\pi/24$	12951530	19393552
$19\pi/24$	13066410	19825657
$20\pi/24$	13159746	20190380
$21\pi/24$	13231984	20481697
$22\pi/24$	13283416	20694201
$23\pi/24$	13314216	20823574
$24\pi/24$	13324473	20867022

$\sigma_1 = 2\pi/24$

$\rho = 1.$

σ_2	ψ_1	ψ_2
$3\pi/24$	8223022	8223022
$4\pi/24$	8752418	9083754
$5\pi/24$	9271764	9969944
$6\pi/24$	9761525	10853696
$7\pi/24$	10214553	11722496
$8\pi/24$	10629369	12570614
$9\pi/24$	11006958	13395124
$10\pi/24$	11349289	14194092
$11\pi/24$	11658632	14965728
$12\pi/24$	11937240	15707963
$13\pi/24$	12187210	16418238
$14\pi/24$	12410417	17093386
$15\pi/24$	12608498	17729577
$16\pi/24$	12782844	18322296
$17\pi/24$	12934612	18866376
$18\pi/24$	13064729	19356081
$19\pi/24$	13173917	19785277
$20\pi/24$	13262708	20147683
$21\pi/24$	13331475	20437228
$22\pi/24$	13380459	20648477
$23\pi/24$	13409802	20777101
$24\pi/24$	13419576	20820299

$\sigma_1 = 3\pi/24$

σ_2	ψ_1	ψ_2
$4\pi/24$	9473311	9473311
$5\pi/24$	9878653	10252404
$6\pi/24$	10278027	11056308
$7\pi/24$	10659533	11865586
$8\pi/24$	11017267	12668867
$9\pi/24$	11348745	13459126
$10\pi/24$	11653362	14231549
$11\pi/24$	11931504	14982326
$12\pi/24$	12184052	15707963
$13\pi/24$	12412090	16404884
$14\pi/24$	12616746	17069187
$15\pi/24$	12799097	17696500
$16\pi/24$	12960115	18281914
$17\pi/24$	13100639	18819967
$18\pi/24$	13221362	19304715
$19\pi/24$	13322829	19729873
$20\pi/24$	13405442	20089060
$21\pi/24$	13469484	20376140
$22\pi/24$	13515131	20585644
$23\pi/24$	13542487	20713226
$24\pi/24$	13551600	20756076

$\sigma_1 = 4\pi/24$

$\mathcal{S} = 1.$

σ_2	ψ_1	ψ_2
$5\pi/24$	10560068	10560068
$6\pi/24$	10874964	11284687
$7\pi/24$	11185073	12031028
$8\pi/24$	11482922	12784645
$9\pi/24$	11764164	13535632
$10\pi/24$	12026482	14276815
$11\pi/24$	12268834	15002553
$12\pi/24$	12490956	15707963
$13\pi/24$	12693029	16388419
$14\pi/24$	12875478	17039225
$15\pi/24$	13038831	17655414
$16\pi/24$	13183638	18231624
$17\pi/24$	13310410	18762056
$18\pi/24$	13419590	19240517
$19\pi/24$	13511536	19660544
$20\pi/24$	13586512	20015635
$21\pi/24$	13644698	20299578
$22\pi/24$	13686206	20506860
$23\pi/24$	13711094	20633113
$24\pi/24$	13719388	20675522

$\sigma_1 = 5\pi/24$

σ_2	ψ_1	ψ_2
$6\pi/24$	11525825	11525825
$7\pi/24$	11769754	12210088
$8\pi/24$	12009358	12912416
$9\pi/24$	12239826	13621362
$10\pi/24$	12458064	14328152
$11\pi/24$	12662197	15025713
$12\pi/24$	12851183	15707963
$13\pi/24$	13024529	16369308
$14\pi/24$	13182093	17004284
$15\pi/24$	13323939	17607316
$16\pi/24$	13450239	18172570
$17\pi/24$	13561207	18693888
$18\pi/24$	13657052	19164804
$19\pi/24$	13737952	19578659
$20\pi/24$	13804037	19928816
$21\pi/24$	13855392	20208974
$22\pi/24$	13892062	20413575
$23\pi/24$	13914062	20538225
$24\pi/24$	13921396	20580100

$\sigma_1 = 6\pi/24$

$\rho = 1.$

σ_2	ψ_1	ψ_2
7 $\pi/24$	12395377	12395377
8 $\pi/24$	12581058	13047133
9 $\pi/24$	12762767	13713149
10 $\pi/24$	12937370	14383804
11 $\pi/24$	13102713	15051074
12 $\pi/24$	13257370	15707963
13 $\pi/24$	13400450	16348070
14 $\pi/24$	13531430	16965243
15 $\pi/24$	13650038	17553340
16 $\pi/24$	13756157	18106069
17 $\pi/24$	13849762	18616909
18 $\pi/24$	13930868	19079116
19 $\pi/24$	13999500	19485826
20 $\pi/24$	14055675	19830259
21 $\pi/24$	14099395	20106025
22 $\pi/24$	14130646	20307511
23 $\pi/24$	14149407	20430299
24 $\pi/24$	14155664	20471554

$\sigma_1 = 7\pi/24$

σ_2	ψ_1	ψ_2
8 $\pi/24$	13184494	13184494
9 $\pi/24$	13321019	13808122
10 $\pi/24$	13454008	14442103
11 $\pi/24$	13581440	15077914
12 $\pi/24$	13701850	15707963
13 $\pi/24$	13814208	16325242
14 $\pi/24$	13917814	16923036
15 $\pi/24$	14012206	17494713
16 $\pi/24$	14097087	18033560
17 $\pi/24$	14172270	18532717
18 $\pi/24$	14237636	18985169
19 $\pi/24$	14293100	19383850
20 $\pi/24$	14338594	19721838
21 $\pi/24$	14374058	19992651
22 $\pi/24$	14399437	20190621
23 $\pi/24$	14414685	20311306
24 $\pi/24$	14419772	20351861

$\sigma_1 = 8\pi/24$

$\mathcal{S} = 1.$

σ_2	ψ_1	ψ_2	
$9\pi/24$	13903815	13903815	$\sigma_1 = 9\pi/24$
$10\pi/24$	13998189	14501539	
$11\pi/24$	14089621	15105555	
$12\pi/24$	14176854	15707963	
$13\pi/24$	14258938	16301360	
$14\pi/24$	14335174	16878620	
$15\pi/24$	14405057	17432710	
$16\pi/24$	14468222	17956566	
$17\pi/24$	14524412	18443020	
$18\pi/24$	14573436	18884814	
$19\pi/24$	14615152	19274693	
$20\pi/24$	14649446	19605596	
$21\pi/24$	14676226	19870955	
$22\pi/24$	14695413	20065051	
$23\pi/24$	14706951	20183418	
$24\pi/24$	14710801	20223200	

σ_2	ψ_1	ψ_2	
$10\pi/24$	14560805	14560805	$\sigma_1 = 10\pi/24$
$11\pi/24$	14618802	15133384	
$12\pi/24$	14674636	15707963	
$13\pi/24$	14727595	16276944	
$14\pi/24$	14777123	16832934	
$15\pi/24$	14822797	17368613	
$16\pi/24$	14864292	17876636	
$17\pi/24$	14901363	18349584	
$18\pi/24$	14933822	18779986	
$19\pi/24$	14961523	19160416	
$20\pi/24$	14984348	19483696	
$21\pi/24$	15002202	19743176	
$22\pi/24$	15015012	19933092	
$23\pi/24$	15022720	20048954	
$24\pi/24$	15025293	20087903	

σ_2	ψ_1	ψ_2	
$11\pi/24$	15160862	15160862	$\sigma_1 = 11\pi/24$
$12\pi/24$	15187534	15707963	
$13\pi/24$	15213020	16252476	
$14\pi/24$	15237012	16786879	
$15\pi/24$	15259265	17303672	
$16\pi/24$	15279582	17795311	
$17\pi/24$	15297810	18254184	
$18\pi/24$	15313827	18672646	
$19\pi/24$	15327535	19043137	
$20\pi/24$	15338856	19358373	
$21\pi/24$	15347728	19611636	
$22\pi/24$	15354101	19797126	
$23\pi/24$	15357939	19910336	
$24\pi/24$	15359221	19948401	

$\mathcal{S} = 1$

σ_2	ψ_1	ψ_2
$12\pi/24$	15707963	15707963
$13\pi/$	15707963	16228393
$14\pi/$	15707963	16741290
$15\pi/$	15707963	17239073
$16\pi/$	15707963	17714076
$17\pi/$	15707963	18158556
$18\pi/$	15707963	18564744
$19\pi/$	15707963	18924971
$20\pi/$	15707963	18231875
$21\pi/$	15707963	19478686
$22\pi/$	15707963	19659576
$23\pi/$	15707963	19770027
$24\pi/$	15707963	19807173

$\sigma_1 = 12\pi/24$

σ_2	ψ_1	ψ_2
$13\pi/24$	16205083	16205083
$14\pi/$	16182882	16696928
$15\pi/$	16162077	17175915
$16\pi/$	16142906	17634334
$17\pi/$	16125571	18064366
$18\pi/$	16110238	18458164
$19\pi/$	16097041	18807988
$20\pi/$	16086094	19106419
$21\pi/$	16077486	19346655
$22\pi/$	16071286	19522850
$23\pi/$	16067546	19630484
$24\pi/$	16066296	19666690

$\sigma_1 = 13\pi/24$

σ_2	ψ_1	ψ_2
$14\pi/24$	16654464	16654464
$15\pi/$	16614489	17115196
$16\pi/$	16577506	17557379
$17\pi/$	16543947	17973173
$18\pi/$	16514171	18354696
$19\pi/$	16488480	18694168
$20\pi/$	16467124	18984144
$21\pi/$	16450304	19217803
$22\pi/$	16438177	19389295
$23\pi/$	16430855	19494103
$24\pi/$	16428406	19529366

$\sigma_1 = 14\pi/24$

$\mathcal{S} = 1$

σ_2	ψ_1	ψ_2	
$15\pi/24$	17057803	17057804	$\sigma_1 = 15\pi/24$
$16\pi/$	17004515	17484382	
$17\pi/$	16956002	17886408	
$18\pi/$	16912840	18255999	
$19\pi/$	16875512	18585370	
$20\pi/$	16844423	18867070	
$21\pi/$	16819900	19094277	
$22\pi/$	16802199	19261148	
$23\pi/$	16791505	19363178	
$24\pi/$	16787927	19397514	

σ_2	ψ_1	ψ_2	
$16\pi/24$	17416387	17416387	$\sigma_1 = 16\pi/24$
$17\pi/$	17354309	17805363	
$18\pi/$	17298939	18163592	
$19\pi/$	17250953	18483307	
$20\pi/$	17210917	18757072	
$21\pi/$	17179294	18978080	
$22\pi/$	17156445	19140506	
$23\pi/$	17142631	19239860	
$24\pi/$	17138008	19273302	

σ_2	ψ_1	ψ_2	
$17\pi/24$	17731186	17731186	$\sigma_1 = 17\pi/24$
$18\pi/$	17664879	18078835	
$19\pi/$	17607308	18389528	
$20\pi/$	17559200	18655859	
$21\pi/$	17521154	18871048	
$22\pi/$	17493640	19029295	
$23\pi/$	17476996	19126131	
$24\pi/$	17471424	19158732	

σ_2	ψ_1	ψ_2	
$18\pi/24$	18002929	18002929	$\sigma_1 = 18\pi/24$
$19\pi/$	17936916	18305411	
$20\pi/$	17881681	18564959	
$21\pi/$	17837953	18774829	
$22\pi/$	17806304	18929251	
$23\pi/$	17787147	19023782	
$24\pi/$	17780734	19055613	

$\mathcal{S} = 1$

σ_2	ψ_1	ψ_2	
$19\pi/24$	18232158	18232158	$\sigma_1 = 19\pi/24$
$20\pi/$	18170796	18485713	
$21\pi/$	18122174	18690876	
$22\pi/$	18086959	18841910	
$23\pi/$	18065635	18934396	
$24\pi/$	18058494	18965543	

σ_2	ψ_1	ψ_2	
$20\pi/24$	18419270	18419270	$\sigma_1 = 20\pi/24$
$21\pi/$	18366584	18620438	
$22\pi/$	18328404	18768592	
$23\pi/$	18305277	18859339	
$24\pi/$	18297531	18889905	

σ_2	ψ_1	ψ_2	
$21\pi/24$	18564550	18564551	$\sigma_1 = 21\pi/24$
$22\pi/$	18524035	18710397	
$23\pi/$	18499486	18799751	
$24\pi/$	18491262	18829851	

σ_2	ψ_1	ψ_2	
$22\pi/24$	18668196	18668196	$\sigma_1 = 22\pi/24$
$23\pi/$	18642620	18756532	
$24\pi/$	18634052	18786291	

σ_2	ψ_1	ψ_2	
$23\pi/24$	18730335	18730336	$\sigma_1 = 23\pi/24$
$24\pi/$	18721559	18759887	

σ_2	ψ_1	ψ_2	
$24\pi/24$	18751041	18751040	$\sigma_1 = 24\pi/24$

$\xi = 1$

σ_2	ψ_1	ψ_2	$\xi\,\psi_1/\psi_2$	
π	1.8751041	1.8751041	1.000000	
$5\pi/6$	1.8889905	1.8297531	1.032375	
$\pi/2$	1.9807173	1.5707963	1.260964	
$\pi/3$	2.0351861	1.4419772	1.411386	$\sigma_1 = \pi$
$\pi/4$	2.0580100	1.3921396	1.478307	
$\pi/6$	2.0756076	1.3551601	1.531633	
$\pi/20$	2.0891220	1.3275526	1.573664	
π	1.8297531	1.8889905	0.968641	
$5\pi/6$	1.8419271	1.8419270	1.000000	
$\pi/2$	1.9231875	1.5707963	1.224339	
$\pi/3$	1.9721838	1.4338594	1.375437	$\sigma_1 = 5\pi/6$
$\pi/4$	1.9928815	1.3804037	1.443695	
$\pi/6$	2.0089060	1.3405442	1.498575	
$\pi/20$	2.0212508	1.3106705	1.542150	
π	1.5707963	1.9807173	0.793044	
$5\pi/6$	1.5707963	1.9231875	0.816767	
$\pi/2$	1.5707963	1.5707963	1.000000	
$\pi/3$	1.5707963	1.3701850	1.146412	$\sigma_1 = \pi/2$
$\pi/4$	1.5707963	1.2851183	1.222297	
$\pi/6$	1.5707963	1.2184052	1.289223	
$\pi/20$	1.5707963	1.1662191	1.346914	
π	1.4419772	2.0351861	0.708523	
$5\pi/6$	1.4338594	1.9721839	0.727041	
$\pi/2$	1.3701850	1.5707963	0.872287	
$\pi/3$	1.3184494	1.3184494	1.000000	$\sigma_1 = \pi/3$
$\pi/4$	1.2912416	1.2009358	1.075196	
$\pi/6$	1.2668867	1.1017267	1.149910	
$\pi/20$	1.2455115	1.0180620	1.223414	
π	1.3921396	2.0580101	0.676449	
$5\pi/6$	1.3804037	1.9928815	0.692667	
$\pi/2$	1.2851183	1.5707963	0.818132	$\sigma_1 = \pi/4$
$\pi/3$	1.2009358	1.2912416	0.930063	
$\pi/4$	1.1525826	1.1525826	1.000000	
$\pi/6$	1.1056308	1.0278028	1.075723	
$\pi/20$	1.0603049	0.9136113	1.160565	
π	1.3551601	2.0756076	0.652898	
$5\pi/16$	1.3405442	2.0089060	0.667301	
$\pi/2$	1.2184052	1.5707963	0.775661	
$\pi/3$	1.1017267	1.2668867	0.869633	$\sigma_1 = \pi/6$
$\pi/4$	1.0278027	1.1056308	0.929608	
$\pi/6$	0.9473311	0.9473311	1.000000	
$\pi/20$	0.8545557	0.7789640	1.097041	
	1.3275526	2.0891220	0.635460	
$5\pi/6$	1.3106705	2.0212508	0.648445	
$\pi/2$	1.1662191	1.5707963	0.742438	
$\pi/3$	1.0180621	1.2455115	0.817385	$\sigma_1 = \pi/20$
$\pi/4$	0.9136113	1.0603049	0.861650	
$\pi/6$	0.7789639	0.8545556	0.911543	
$\pi/20$	0.5213590	0.5213592	1.000000	

$\rho = 1.2$

σ_2	ψ_1	ψ_2	$\rho\psi_1/\psi_2$	
π	1.9988957	1.7512935	1.369659	
$5\pi/6$	2.0120622	1.7115813	1.410669	
$\pi/2$	2.0979196	1.4824482	1.698207	
$\pi/3$	2.1480349	1.3672493	1.885276	$\sigma_1 = \pi$
$\pi/4$	2.1688697	1.3224785	1.968005	
$\pi/6$	2.1848748	1.2891825	2.033730	
$\pi/20$	2.1971340	1.2642813	2.085423	
π	1.9476106	1.7655786	1.323721	
$5\pi/6$	1.9591193	1.7241267	1.363556	
$\pi/2$	2.0348119	1.4828037	1.646728	
$\pi/3$	2.0795260	1.3596503	1.835348	$\sigma_1 = 5\pi/6$
$\pi/4$	2.0982281	1.3113653	1.920040	
$\pi/6$	2.1126380	1.2752819	1.987926	
$\pi/20$	2.1237001	1.2481920	2.041705	
π	1.6575569	1.8613853	1.068596	
$5\pi/6$	1.6570994	1.8092694	1.099073	
$\pi/2$	1.6530079	1.4861686	1.334714	$\sigma_1 = \pi/2$
$\pi/3$	1.6493099	1.3004737	1.521885	
$\pi/4$	1.6473367	1.2215089	1.618330	
$\pi/6$	1.6455921	1.1595041	1.703065	
$\pi/20$	1.6440961	1.1109556	1.775872	
π	1.5144782	1.9194965	0.946797	
$5\pi/6$	1.5058282	1.8618493	0.970537	
$\pi/2$	1.4375362	1.4894386	1.158184	
$\pi/3$	1.3816505	1.2527844	1.323437	
$\pi/4$	1.3520966	1.1422807	1.420418	$\sigma_1 = \pi/3$
$\pi/6$	1.3255140	1.0489135	1.516442	
$\pi/20$	1.3020566	0.9701452	1.610551	
π	1.4593088	1.9440942	0.900764	
$5\pi/6$	1.4469650	1.8843272	0.921474	
$\pi/2$	1.3463556	1.4912535	1.083402	
$\pi/3$	1.2572893	1.2278744	1.228747	$\sigma_1 = \pi/4$
$\pi/4$	1.2060667	1.0968339	1.319507	
$\pi/6$	1.1562465	0.9788027	1.417544	
$\pi/20$	1.1080251	0.8707579	1.526980	
π	1.4184440	1.9631503	0.867042	
$5\pi/6$	1.4031460	1.9018316	0.885344	
$\pi/2$	1.2749040	1.4928928	1.024779	
$\pi/3$	1.1523534	1.2057130	1.146893	$\sigma_1 = \pi/6$
$\pi/4$	1.0747460	1.0527870	1.225029	
$\pi/6$	0.9902658	0.9024768	1.316731	
$\pi/20$	0.8927951	0.7425357	1.442832	
π	1.3879778	1.9778352	0.842119	
$5\pi/6$	1.3703479	1.9153742	0.858536	
$\pi/2$	1.2190434	1.4943220	0.978940	
$\pi/3$	1.0638682	1.1864003	1.076063	$\sigma_1 = \pi/20$
$\pi/4$	0.9545755	1.0103949	1.133706	
$\pi/6$	0.8137837	0.8145509	1.198870	
$\pi/20$	0.5445820	0.4970589	1.314730	

$\rho = 1.4$

σ_2	ψ_1	ψ_2	$\rho\psi_1/\psi_2$	
π	2.1018146	1.6481803	1.785327	
$5\pi/6$	2.1141621	1.6128941	1.835103	
$\pi/2$	2.1939852	1.4073849	2.182473	
$\pi/3$	2.2400601	1.3029947	2.406828	$\sigma_1 = \pi$
$\pi/4$	2.2591198	1.2622410	2.505677	
$\pi/6$	2.2737277	1.2318647	2.584065	
$\pi/20$	2.2848986	1.2091085	2.645634	
π	2.0454114	1.6625419	1.722408	
$5\pi/6$	2.0561610	1.6255192	1.770896	
$\pi/2$	2.1261128	1.4079640	2.114087	
$\pi/3$	2.1668446	1.2958214	2.341050	$\sigma_1 = 5\pi/6$
$\pi/4$	2.1837638	1.2516610	2.442570	
$\pi/6$	2.1967566	1.2185881	2.523789	
$\pi/20$	2.2067064	1.1937172	2.588041	
π	1.7287848	1.7602175	1.375000	
$5\pi/6$	1.7278654	1.7124792	1.412579	
$\pi/2$	1.7198252	1.4135803	1.703303	
$\pi/3$	1.7127584	1.2403198	1.933261	$\sigma_1 = \pi/2$
$\pi/4$	1.7090421	1.1664276	2.051271	
$\pi/6$	1.7057818	1.1083278	2.154683	
$\pi/20$	1.7030022	1.0627904	2.243343	
π	1.5734128	1.8266909	1.209858	
$5\pi/6$	1.5643058	1.7673940	1.239128	
$\pi/2$	1.4920602	1.4192144	1.471860	
$\pi/3$	1.4326372	1.1959260	1.677104	$\sigma = \pi/3$
$\pi/4$	1.4010956	1.0913952	1.797272	
$\pi/6$	1.3726353	1.0029949	1.915951	
$\pi/20$	1.3474332	0.9283780	2.031938	
π	1.5136063	1.8465509	1.147571	
$5\pi/6$	1.5007645	1.7911428	1.173033	
$\pi/2$	1.3957828	1.4223983	1.373804	
$\pi/3$	1.3026908	1.1728917	1.554932	$\sigma_1 = \pi/4$
$\pi/4$	1.2491010	1.0484050	1.668002	
$\pi/6$	1.1969150	0.9361741	1.789925	
$\pi/20$	1.1463084	0.8333997	1.925645	
π	1.4693481	1.8666840	1.102001	
$5\pi/6$	1.4535044	1.8097430	1.124417	
$\pi/2$	1.3203580	1.4253034	1.296918	
$\pi/3$	1.1930632	1.1525270	1.449240	$\sigma_1 = \pi/6$
$\pi/4$	1.1124746	1.0068113	1.546928	
$\pi/6$	1.0247469	0.8634231	1.661579	
$\pi/20$	0.9234680	0.7107743	1.818939	
π	1.4363776	1.8822545	1.068362	
$5\pi/6$	1.4181566	1.8241944	1.088381	
$\pi/2$	1.2614011	1.4278566	1.236792	
$\pi/3$	1.1006086	1.1349125	1.357684	
$\pi/4$	0.9874340	0.9668964	1.429737	$\sigma_1 = \pi/20$
$\pi/6$	0.8417135	0.7796730	1.511402	
$\pi/20$	0.5632067	0.4758661	1.656956	

$\rho = 1.6$

σ_2	ψ_1	ψ_2	$\rho\psi_1/\psi_2$	
π	2.1885216	1.5609052	2.243336	
$5\pi/6$	2.2000457	1.5291472	2.301984	
$\pi/2$	2.2741176	1.3426375	2.710030	
$\pi/3$	2.3165616	1.2469905	2.972355	$\sigma_1 = \pi$
$\pi/4$	2.3340632	1.2094919	3.087661	
$\pi/6$	2.3474574	1.1814838	3.178996	
$\pi/20$	2.3576896	1.1604689	3.250672	
π	2.1276978	1.5751532	2.161261	
$5\pi/6$	2.1376798	1.5416812	2.218544	
$\pi/2$	2.2021361	1.3433588	2.622842	
$\pi/3$	2.2392797	1.2401752	2.888985	$\sigma_1 = 5\pi/6$
$\pi/4$	2.2546315	1.1993754	3.007741	
$\pi/6$	2.2663919	1.1687573	3.102635	
$\pi/20$	2.2753817	1.1456972	3.177638	
π	1.7883373	1.6732624	1.710036	
$5\pi/6$	1.7869702	1.6291281	1.755020	
$\pi/2$	1.7752279	1.3504988	2.103197	
$\pi/3$	1.7651352	1.1877457	2.377795	$\sigma_1 = \pi/2$
$\pi/4$	1.7598879	1.1181384	2.518311	
$\pi/6$	1.7553118	1.0633344	2.641219	
$\pi/20$	1.7514282	1.0203368	2.746431	
π	1.6223360	1.7351774	1.495949	
$5\pi/6$	1.6128309	1.6854859	1.531030	
$\pi/2$	1.5371590	1.3578593	1.811273	
$\pi/3$	1.4746895	1.1460907	2.058740	$\sigma_1 = \pi/3$
$\pi/4$	1.4414457	1.0467148	2.203382	
$\pi/6$	1.4113852	0.9625972	2.345962	
$\pi/20$	1.3847034	0.8915545	2.485014	
π	1.5584773	1.7619177	1.415256	
$5\pi/6$	1.5452187	1.7101264	1.445712	
$\pi/2$	1.4365744	1.3620856	1.687500	
$\pi/3$	1.3401026	1.1246147	1.906577	$\sigma_1 = \pi/4$
$\pi/4$	1.2845252	1.0058334	2.043321	
$\pi/6$	1.2303538	0.8986513	2.190578	
$\pi/20$	1.1777480	0.8004577	2.354149	
π	1.5112378	1.7828380	1.356254	
$5\pi/6$	1.4949472	1.7295317	1.382985	
$\pi/2$	1.3577710	1.3659773	1.590388	
$\pi/3$	1.2265600	1.1057461	1.774816	$\sigma_1 = \pi/6$
$\pi/4$	1.1435061	0.9663430	1.893334	
$\pi/6$	1.0530904	0.8290224	2.032448	
$\pi/20$	0.9486565	0.6827629	2.223100	
π	1.4760586	1.7990755	1.312726	
$5\pi/6$	1.4573590	1.7446705	1.336513	
$\pi/2$	1.2961670	1.3694224	1.514110	
$\pi/3$	1.1307754	1.0895500	1.660539	$\sigma_1 = \pi/20$
$\pi/4$	1.0144164	0.9285501	1.747958	
$\pi/6$	0.8646497	0.7489148	1.847259	
$\pi/20$	0.5785009	0.4571715	2.024626	

$\rho = 1.8$

σ_2	ψ_1	ψ_2	$\rho\,\psi_1/\psi_2$	
π	2.2624183	1.4859588	2.740556	
$5\pi/6$	2.2731600	1.4570580	2.808185	
$\pi/2$	2.3419405	1.2860673	3.277817	
$\pi/3$	2.3811645	1.1976178	3.578852	$\sigma_1 = \pi$
$\pi/4$	2.3973049	1.1628070	3.710976	
$\pi/6$	2.4096459	1.1367576	3.815556	
$\pi/20$	2.4190674	1.1171850	3.897583	
π	2.1977579	1.4999858	2.637334	
$5\pi/6$	2.2070062	1.4694046	2.703552	
$\pi/2$	2.2663833	1.2868794	3.170064	
$\pi/3$	2.3003360	1.1911096	3.476258	$\sigma_1 = 5\pi/6$
$\pi/4$	2.3143161	1.1530985	3.612674	
$\pi/6$	2.3250058	1.1245205	3.721596	
$\pi/20$	2.3331657	1.1029670	3.807637	
π	1.8388662	1.5976160	2.071811	
$5\pi/6$	1.8370750	1.5564958	2.124474	
$\pi/2$	1.8219163	1.2950580	2.532280	
$\pi/3$	1.8091206	1.1412961	2.853262	$\sigma_1 = \pi/2$
$\pi/4$	1.8025286	1.0753592	3.017179	
$\pi/6$	1.7968069	1.0233788	3.160367	
$\pi/20$	1.7919683	0.9825574	3.282804	
π	1.6636341	1.6603149	1.803598	
$5\pi/6$	1.6537787	1.6136616	1.844750	
$\pi/2$	1.5751089	1.3036899	2.174747	
$\pi/3$	1.5099915	1.1019567	2.466508	$\sigma_1 = \pi/3$
$\pi/4$	1.4752762	1.0070804	2.636827	
$\pi/6$	1.4438381	0.9267002	2.804476	
$\pi/20$	1.4158874	0.8587744	2.967715	
π	1.5962162	1.6876500	1.702479	
$5\pi/6$	1.5826028	1.6389114	1.738157	
$\pi/2$	1.4708417	1.3087163	2.022986	
$\pi/3$	1.3714904	1.0817958	2.282023	$\sigma_1 = \pi/4$
$\pi/4$	1.3142196	0.9680330	2.443713	
$\pi/6$	1.2583581	0.8652932	2.617661	
$\pi/20$	1.2040524	0.7711274	2.810553	
π	1.5463424	1.7091372	1.628551	
$5\pi/6$	1.5296788	1.6589012	1.659787	
$\pi/2$	1.3891312	1.3133830	1.903813	
$\pi/3$	1.2546307	1.0641902	2.122116	$\sigma_1 = \pi/6$
$\pi/4$	1.1695026	0.9303690	2.262656	
$\pi/6$	1.0768236	0.7984209	2.427645	
$\pi/20$	0.9697312	0.6578181	2.653493	
π	1.5092031	1.7258731	1.574024	
$5\pi/6$	1.4901081	1.6745573	1.601734	
$\pi/2$	1.3252369	1.3175418	1.810513	
$\pi/3$	1.1560106	1.0491946	1.983254	$\sigma_1 = \pi/20$
$\pi/4$	1.0369907	0.8944164	2.086929	
$\pi/6$	0.8838404	0.7215256	2.204929	
$\pi/20$	0.5912964	0.4405193	2.416089	

$\xi = 2$

σ_2	ψ_1	ψ_2	$\xi\ \psi_1/\psi_2$	
π	2.3260473	1.4207758	3.274334	
$5\pi/6$	2.3360664	1.3942239	3.351063	
$\pi/2$	2.4000602	1.2360986	3.883283	
$\pi/3$	2.4364408	1.1536677	4.223817	$\sigma_1 = \pi$
$\pi/4$	2.4513914	1.1211130	4.373139	
$\pi/6$	2.4628158	1.0967107	4.491277	
$\pi/20$	2.4715339	1.0783525	4.583907	
π	2.2580362	1.4345247	3.148131	
$5\pi/6$	2.2666030	1.4063316	3.223426	
$\pi/2$	2.3213657	1.2369680	3.753316	
$\pi/3$	2.3524936	1.1474271	4.100467	$\sigma_1 = 5\pi/6$
$\pi/4$	2.3652725	1.1117671	4.254979	
$\pi/6$	2.3750291	1.0849121	4.378288	
$\pi/20$	2.3824684	1.0646330	4.475661	
π	1.8822677	1.5311079	2.458700	
$5\pi/6$	1.8800806	1.4925430	2.519299	
$\pi/2$	1.8617955	1.2458559	2.988781	
$\pi/3$	1.8465878	1.0998756	3.357812	$\sigma_1 = \pi/2$
$\pi/4$	1.8388112	1.0371211	3.545991	
$\pi/6$	1.8320871	0.9875907	3.710215	
$\pi/20$	1.8264171	0.9486584	3.850526	
π	1.6989784	1.5941219	2.131554	
$5\pi/6$	1.6888122	1.5500655	2.179020	
$\pi/2$	1.6074983	1.2554294	2.560874	
$\pi/3$	1.5400610	1.0625227	2.898876	$\sigma_1 = \pi/3$
$\pi/4$	1.5040625	0.9716132	3.096011	
$\pi/6$	1.4714274	0.8945286	3.289839	
$\pi/20$	1.4423778	0.8293506	3.478331	
π	1.6284178	1.6218380	2.008114	
$5\pi/6$	1.6144982	1.5757138	2.049228	
$\pi/2$	1.5000501	1.2610739	2.379004	
$\pi/3$	1.3982153	1.0434866	2.679891	$\sigma_1 = \pi/4$
$\pi/4$	1.3394845	0.9341786	2.867727	
$\pi/6$	1.2821669	0.8353846	3.069645	
$\pi/20$	1.2263982	0.7447950	3.293251	
π	1.5762034	1.6437236	1.917845	
$5\pi/6$	1.5592236	1.5961194	1.953768	
$\pi/2$	1.4158132	1.2663536	2.236047	
$\pi/3$	1.2785096	1.0269610	2.489889	$\sigma_1 = \pi/6$
$\pi/4$	1.1916115	0.8981184	2.653573	
$\pi/6$	1.0969994	0.7709686	2.845769	
$\pi/20$	0.9876352	0.6354189	3.108611	
π	1.5373145	1.6608276	1.851263	
$5\pi/6$	1.5178876	1.6121611	1.883047	
$\pi/2$	1.3499172	1.2710872	2.124036	
$\pi/3$	1.1774447	1.0129926	2.324686	$\sigma_1 = \pi/20$
$\pi/4$	1.0561677	0.8637790	2.445458	
$\pi/6$	0.9001447	0.6969332	2.583159	
$\pi/20$	0.6021675	0.4255632	2.829980	

$\rho = 2.2$

σ_2	ψ_1	ψ_2	$\rho\,\psi_1/\psi_2$	
π	2.3813422	1.3634515	3.842420	
$5\pi/6$	2.3907036	1.3388580	3.928384	
$\pi/2$	2.4503999	1.1915452	4.524276	
$\pi/3$	2.4842697	1.1142178	4.905139	$\sigma_1 = \pi$
$\pi/4$	2.4981767	1.0835836	5.072049	
$\pi/6$	2.5087997	1.0605862	5.204065	
$\pi/20$	2.5169042	1.0432655	5.307555	
π	2.3103850	1.3768954	3.691527	
$5\pi/6$	2.3183282	1.3507025	3.776051	
$\pi/2$	2.3689321	1.1924501	4.370540	$\sigma_1 = 5\pi/6$
$\pi/3$	2.3975595	1.1082132	4.759581	
$\pi/4$	2.4092832	1.0745628	4.932632	
$\pi/6$	2.4182229	1.0491834	5.070696	
$\pi/20$	2.4250328	1.0299972	5.179696	
π	1.9199396	1.4720886	2.869302	
$5\pi/6$	1.9173859	1.4357166	2.938079	
$\pi/2$	1.8962509	1.2018193	3.471197	
$\pi/3$	1.8788883	1.0626425	3.889882	$\sigma_1 = \pi/2$
$\pi/4$	1.8700638	1.0026770	4.103156	
$\pi/6$	1.8624578	0.9552959	4.289150	
$\pi/20$	1.8560591	0.9180222	4.447964	
π	1.7295789	1.5350846	2.478739	
$5\pi/6$	1.7191352	1.4932754	2.532753	
$\pi/2$	1.6354729	1.2120922	2.968454	
$\pi/3$	1.5659883	1.0270156	3.354549	$\sigma_1 = \pi/3$
$\pi/4$	1.5288623	0.9396337	3.579583	
$\pi/6$	1.4951783	0.8654815	3.800650	
$\pi/20$	1.4651686	0.8027487	4.015417	
π	1.6562288	1.5630214	2.331192	
$5\pi/6$	1.6420420	1.5191637	2.377948	
$\pi/2$	1.5252521	1.2182165	2.754481	
$\pi/3$	1.4212530	1.0089531	3.099011	$\sigma_1 = \pi/4$
$\pi/4$	1.3612504	0.9036313	3.314129	
$\pi/6$	1.3026652	0.8083704	3.545235	
$\pi/20$	1.2456244	0.7209832	3.800884	
π	1.6019239	1.5851759	2.223244	
$5\pi/6$	1.5846724	1.5398559	2.264030	
$\pi/2$	1.4388000	1.2239836	2.586113	
$\pi/3$	1.2990789	0.9933609	2.877075	$\sigma_1 = \pi/6$
$\pi/4$	1.2106522	0.8689926	3.064969	
$\pi/6$	1.1143696	0.7461612	3.285635	
$\pi/20$	1.0030408	0.6151603	3.587178	
π	1.5614648	1.6025462	2.143603	
$5\pi/6$	1.5417554	1.5561805	2.179607	
$\pi/2$	1.3711398	1.2291827	2.454076	
$\pi/3$	1.1958836	0.9802806	2.683868	$\sigma_1 = \pi/20$
$\pi/4$	1.0726676	0.8360804	2.822538	
$\pi/6$	0.9141738	0.6746921	2.980889	
$\pi/20$	0.6115218	0.4120337	3.265141	

$\rho = 2.4$

σ_2	ψ_1	ψ_2	$\rho\,\psi_1/\psi_2$	
π	2.4297946	1.3125484	4.442889	
$5\pi/6$	2.4385614	1.2896090	4.538234	
$\pi/2$	2.4944097	1.1514972	5.198956	
$\pi/3$	2.5260568	1.0785507	5.621003	$\sigma_1 = \pi$
$\pi/4$	2.5390445	1.0495715	5.805899	
$\pi/6$	2.5489631	1.0277872	5.952119	
$\pi/20$	2.5565291	1.0113636	6.066730	
π	2.3562296	1.3256785	4.265703	
$5\pi/6$	2.3636066	1.3011816	4.359619	
$\pi/2$	2.4104736	1.1524227	5.019978	
$\pi/3$	2.4368826	1.072564	5.451860	$\sigma_1 = 5\pi/6$
$\pi/4$	2.4476753	1.0408444	5.643899	
$\pi/6$	2.4558962	1.0167439	5.797085	
$\pi/20$	2.4621531	0.9985063	5.918007	
π	1.9529362	1.4192852	3.302400	
$5\pi/6$	1.9500446	1.3848152	3.379589	
$\pi/2$	1.9263156	1.1621129	3.978234	
$\pi/3$	1.9070226	1.0289391	4.448129	$\sigma_1 = \pi/2$
$\pi/4$	1.8972671	0.9714406	4.687308	
$\pi/6$	1.8888804	0.9259630	4.895782	
$\pi/20$	1.8818389	0.8901595	5.073713	
π	1.7563353	1.4820270	2.844216	
$5\pi/6$	1.7456423	1.4421830	2.905000	
$\pi/2$	1.6598817	1.1729052	3.396452	
$\pi/3$	1.5885783	0.9948279	3.832410	$\sigma_1 = \pi/3$
$\pi/4$	1.5504544	0.9106075	4.086383	
$\pi/6$	1.5158446	0.8390850	4.335707	
$\pi/20$	1.4849894	0.7785458	4.577732	
π	1.6804967	1.5100636	2.670876	
$5\pi/6$	1.6660744	1.4681923	2.723471	
$\pi/2$	1.5472248	1.1794028	3.148491	
$\pi/3$	1.4413226	0.9776168	3.538374	$\sigma_1 = \pi/4$
$\pi/4$	1.3802022	0.8758872	3.781863	
$\pi/6$	1.3205036	0.7838131	4.043322	
$\pi/20$	1.2623464	0.6993146	4.332287	
π	1.6243152	1.5323873	2.543976	
$5\pi/6$	1.6068278	1.4890713	2.589793	
$\pi/2$	1.4588153	1.1855589	2.953170	
$\pi/3$	1.3169875	0.9628394	3.282759	$\sigma_1 = \pi/6$
$\pi/4$	1.2272270	0.8425192	3.495878	
$\pi/6$	1.1294860	0.7236001	3.746221	
$\pi/20$	1.0164413	0.5967220	4.088100	
π	1.5824400	1.5499441	2.450318	
$5\pi/6$	1.5624872	1.5055981	2.490684	
$\pi/2$	1.3895879	1.1911367	2.799856	
$\pi/3$	1.2119190	0.9505336	3.059971	$\sigma_1 = \pi/20$
$\pi/4$	1.0870188	0.8108802	3.217300	
$\pi/6$	0.9263776	0.6544507	3.397210	
$\pi/20$	0.6196592	0.3997174	3.720583	

$\rho = 2.6$

σ_2	ψ_1	ψ_2	$\xi\ \psi_1/\psi_2$	
π	2.4725700	1.2669637	5.074085	
$5\pi/6$	2.4808007	1.2454378	5.178967	
$\pi/2$	2.5332027	1.1152438	5.905729	
$\pi/3$	2.5628753	1.0460990	6.369833	$\sigma_1 = \pi$
$\pi/4$	2.5750491	1.0185616	6.573120	
$\pi/6$	2.5843451	0.9978360	6.733870	
$\pi/20$	2.5914356	0.9821966	6.859862	
π	2.3966821	1.2797815	4.869092	
$5\pi/6$	2.4035464	1.2567394	4.972567	
$\pi/2$	2.4470562	1.1161799	5.700108	
$\pi/3$	2.4714907	1.0404940	6.175793	$\sigma_1 = 5\pi/6$
$\pi/4$	2.4814580	1.0101015	6.387270	
$\pi/6$	2.4890426	0.9871209	6.555945	
$\pi/20$	2.4948109	0.9697153	6.689085	
π	1.9820692	1.3717008	3.756927	
$5\pi/6$	1.9788666	1.3388963	3.842757	
$\pi/2$	1.9527760	1.1260770	4.508766	
$\pi/3$	1.9317481	0.9982428	5.031386	
$\pi/4$	1.9211613	0.9429446	5.297256	$\sigma_1 = \pi/2$
$\pi/6$	1.9120800	0.8991667	5.528906	
$\pi/20$	1.9044679	0.8646775	5.726547	
π	1.7799316	1.4340220	3.227163	
$5\pi/6$	1.7690136	1.3959127	3.294930	
$\pi/2$	1.6813678	1.1372528	3.843962	
$\pi/3$	1.6084390	0.9654754	4.331484	
$\pi/4$	1.5694263	0.8841076	4.615398	$\sigma_1 = \pi/3$
$\pi/6$	1.5339935	0.8149600	4.893961	
$\pi/20$	1.5023883	0.7564027	5.164193	
π	1.7018622	1.4620672	3.026428	
$5\pi/6$	1.6872309	1.4219529	3.085053	
$\pi/2$	1.5665547	1.1440412	3.560223	
$\pi/3$	1.4589661	0.9490158	3.997101	
$\pi/4$	1.3968556	0.8505438	4.270003	$\sigma_1 = \pi/4$
$\pi/6$	1.3361713	0.7613621	4.562935	
$\pi/20$	1.2770268	0.6794864	4.886440	
π	1.6439884	1.4844826	2.879367	
$5\pi/6$	1.6262940	1.4429412	2.930379	
$\pi/2$	1.4764038	1.1505084	3.336481	
$\pi/3$	1.3327236	0.9349556	3.706145	
$\pi/4$	1.2417888	0.8183198	3.945463	$\sigma_1 = \pi/6$
$\pi/6$	1.1427633	0.7029661	4.226640	
$\pi/20$	1.0282069	0.5798470	4.610420	
π	1.6008301	1.5021630	2.770777	
$5\pi/6$	1.5806656	1.4596067	2.815643	
$\pi/2$	1.4057752	1.1563953	3.160697	
$\pi/3$	1.2259948	0.9233309	3.452269	
$\pi/4$	1.0996181	0.7878248	3.628988	$\sigma_1 = \pi/20$
$\pi/6$	0.9370930	0.6359266	3.831325	
$\pi/20$	0.6268038	0.3884430	4.195441	

$\rho = 2.8$

σ_2	ψ_1	ψ_2	$\rho\,\psi_1/\psi_2$	
π	2.5105898	1.2258382	5.734567	
$5\pi/6$	2.5183372	1.2055329	5.849151	
$\pi/2$	2.5676473	1.1082214	6.643199	
$\pi/3$	2.5955587	1.0164077	7.150245	
$\pi/4$	2.6070084	0.9901380	7.372329	$\sigma_1 = \pi$
$\pi/6$	2.6157511	0.9703452	7.547936	
$\pi/20$	2.6224193	0.9553975	7.685569	
π	2.4326205	1.2383514	5.500327	
$5\pi/6$	2.4390209	1.2165696	5.613537	
$\pi/2$	2.4795102	1.0831612	6.409599	
$\pi/3$	2.5021804	1.0109740	6.930055	$\sigma_1 = 5\pi/6$
$\pi/4$	2.5114124	0.9819220	7.161419	
$\pi/6$	2.5184310	0.9599313	7.345949	
$\pi/20$	2.5237648	0.9432619	7.491600	
π	2.0079734	1.3285436	4.231947	
$5\pi/6$	2.0044849	1.2972101	4.326637	
$\pi/2$	1.9762414	1.0931829	5.061802	$\sigma_1 = \pi/2$
$\pi/3$	1.9536489	0.9701329	5.638627	
$\pi/4$	1.9423163	0.9168115	5.931956	
$\pi/6$	1.9326136	0.8745627	6.187456	
$\pi/20$	1.9244919	0.8412568	6.405389	
π	1.8008978	1.3903284	3.626851	
$5\pi/6$	1.7897756	1.3537629	3.701809	
$\pi/2$	1.7004276	1.1046389	4.310184	
$\pi/3$	1.6260384	0.9385668	4.850915	$\sigma_1 = \pi/3$
$\pi/4$	1.5862293	0.8597888	5.165736	
$\pi/6$	1.5500607	0.7927991	5.474489	
$\pi/20$	1.5177859	0.7360434	5.773845	
π	1.7208194	1.4183134	3.397200	
$5\pi/6$	1.7060010	1.3797659	3.462039	
$\pi/2$	1.5836938	1.1116533	3.988962	$\sigma_1 = \pi/4$
$\pi/3$	1.4746004	0.9227758	4.474414	
$\pi/4$	1.4116069	0.8272745	4.777736	
$\pi/6$	1.3500441	0.7407331	5.103219	
$\pi/20$	1.2900199	0.6612522	5.462448	
π	1.6614127	1.4407604	3.228820	
$5\pi/6$	1.6435353	1.4008033	3.285186	
$\pi/2$	1.4919839	1.1183694	3.735398	$\sigma_1 = \pi/6$
$\pi/3$	1.3466621	0.9093519	4.146529	
$\pi/4$	1.2546858	0.7960874	4.412983	
$\pi/6$	1.1545200	0.6840000	4.726105	
$\pi/20$	1.0386215	0.5643264	5.153295	
π	1.6170868	1.4585145	3.104421	
$5\pi/6$	1.5967365	1.4175570	3.153921	
$\pi/2$	1.4200952	1.1245092	3.536002	
$\pi/3$	1.2384515	0.8983304	3.860121	$\sigma_1 = \pi/20$
$\pi/4$	1.1107699	0.7666269	4.056935	
$\pi/6$	0.9465781	0.6188900	4.282536	
$\pi/20$	0.6331293	0.3780724	4.688949	

$\xi = 3$

σ_2	ψ_1	ψ_2	$\xi\,\psi_1/\psi_2$	
π	2.5445906	1.1884924	6.423072	
$5\pi/6$	2.5519018	1.1692514	6.547527	
$\pi/2$	2.5984306	1.0519768	7.410137	
$\pi/3$	2.6247644	0.9891068	7.961014	$\sigma_1 = \pi$
$\pi/4$	2.6355666	0.9639614	8.202299	
$\pi/6$	2.6438148	0.9449970	8.393090	
$\pi/20$	2.6501060	0.9306646	8.542624	
π	2.4647460	1.2007119	6.158212	
$5\pi/6$	2.4707264	1.1800325	6.281335	
$\pi/2$	2.5084918	1.0529155	7.147274	
$\pi/3$	2.5295790	0.9838295	7.713468	$\sigma_1 = 5\pi/6$
$\pi/4$	2.5381526	0.9559697	7.965167	
$\pi/6$	2.5446650	0.9348607	8.165917	
$\pi/20$	2.5496106	0.9188481	8.324370	
π	2.0311525	1.2891775	4.726624	
$5\pi/6$	2.0274011	1.2591530	4.830392	
$\pi/2$	1.9971914	1.0630018	5.636466	
$\pi/3$	1.9731827	0.9442665	6.268938	$\sigma_1 = \pi/2$
$\pi/4$	1.9611780	0.8927326	6.590478	
$\pi/6$	1.9509164	0.8518682	6.870487	
$\pi/20$	1.9423373	0.8196348	7.109279	
π	1.8196510	1.3503466	4.042631	
$5\pi/6$	1.8083429	1.3151649	4.124980	
$\pi/2$	1.7174509	1.0746588	4.794408	
$\pi/3$	1.6417428	0.9137820	5.389938	$\sigma_1 = \pi/3$
$\pi/4$	1.6012164	0.8373679	5.736605	
$\pi/6$	1.5643861	0.7723498	6.076467	
$\pi/20$	1.5315102	0.7172412	6.405837	
π	1.7377555	1.3782194	3.782610	
$5\pi/6$	1.7227687	1.3410792	3.853841	
$\pi/2$	1.5989961	1.0818478	4.434070	
$\pi/3$	1.4885516	0.8985902	4.969623	$\sigma_1 = \pi/4$
$\pi/4$	1.4247657	0.8058118	5.304337	
$\pi/6$	1.3624148	0.7216925	5.663415	
$\pi/20$	1.3016024	0.6444098	6.059510	
π	1.6769546	1.4006511	3.591804	
$5\pi/6$	1.6589141	1.3621186	3.653678	
$\pi/2$	1.5058827	1.0887630	4.149340	
$\pi/3$	1.3590959	0.8857348	4.603282	$\sigma_1 = \pi/6$
$\pi/4$	1.2661892	0.7755697	4.897777	
$\pi/6$	1.1650046	0.6664888	5.243919	
$\pi/20$	1.0479062	0.5499880	5.715976	
π	1.6315621	1.4184392	3.450755	
$5\pi/6$	1.6110473	1.3789202	3.505019	
$\pi/2$	1.4328544	1.0951096	3.925236	
$\pi/3$	1.2495546	0.8752510	4.282959	$\sigma_1 = \pi/20$
$\pi/4$	1.1207113	0.7470500	4.500547	
$\pi/6$	0.9550344	0.6031519	4.750218	
$\pi/20$	0.6387672	0.3684891	5.200429	

$\xi = 4$

	ψ_1	ψ_2	$\xi\,\psi_1/\psi_2$	
π	2.6717424	1.0425646	10.250654	
$5\pi/6$	2.6774071	1.0270933	10.427123	
$\pi/2$	2.7134898	0.9315105	11.651998	
$\pi/3$	2.7339339	0.8794097	12.435314	$\sigma_1 = \pi$
$\pi/4$	2.7423252	0.8584119	12.778598	
$\pi/6$	2.7487346	0.8425168	13.050112	
$\pi/20$	2.7536245	0.8304708	13.262957	
π	2.5847592	1.0535088	09.813907	
$5\pi/6$	2.5891430	1.0367610	09.989354	
$\pi/2$	2.6166200	0.9324103	11.225187	
$\pi/3$	2.6317749	0.8747496	12.034415	$\sigma_1 = 5\pi/6$
$\pi/4$	2.6378899	0.8513195	12.394359	
$\pi/6$	2.6425145	0.8335007	12.681522	
$\pi/20$	2.6460140	0.8199464	12.908228	
π	2.1180091	1.1339564	07.471219	
$5\pi/6$	2.1132184	1.1087943	07.623482	
$\pi/2$	2.0753465	0.9423510	08.809229	
$\pi/3$	2.0459142	0.8401620	09.740570	$\sigma_1 = \pi/2$
$\pi/4$	2.0313576	0.7955305	10.213851	
$\pi/6$	2.0189835	0.7600303	10.625805	
$\pi/20$	2.0086810	0.7319635	10.976946	
π	1.8899282	1.1915758	06.344299	
$5\pi/6$	1.8778956	1.1616274	06.466430	
$\pi/2$	1.7810424	0.9543182	07.465193	
$\pi/3$	1.7002932	0.8138190	08.357108	$\sigma_1 = \pi/3$
$\pi/4$	1.6570401	0.7467342	08.876198	
$\pi/6$	1.6177034	0.6895165	09.384566	
$\pi/20$	1.5825576	0.6409354	09.876550	
π	1.8010739	1.2184676	05.912587	
$5\pi/6$	1.7854466	1.1866785	06.018300	
$\pi/2$	1.6561240	0.9619050	06.886850	
$\pi/3$	1.5405747	0.8008916	07.694299	$\sigma_1 = \pi/4$
$\pi/4$	1.4737985	0.7189630	08.199579	
$\pi/6$	1.4084773	0.6445190	08.741261	
$\pi/20$	1.3446975	0.5760275	09.337731	
π	1.7348583	1.2404103	05.594466	
$5\pi/6$	1.7162116	1.2073113	05.686062	
$\pi/2$	1.5576797	0.9693360	06.427822	
$\pi/3$	1.4054303	0.7901640	07.114625	$\sigma_1 = \pi/6$
$\pi/4$	1.3090470	0.6924390	07.561949	
$\pi/6$	1.2040513	0.5954612	08.088192	
$\pi/20$	1.0824616	0.4917512	08.804952	
π	1.6852758	1.2580026	05.358576	
$5\pi/6$	1.6641597	1.2239797	05.438521	
$\pi/2$	1.4802749	0.9762642	06.065059	
$\pi/3$	1.2908564	0.7816764	06.605580	
$\pi/4$	1.1577044	0.6675989	06.936527	$\sigma_1 = \pi/20$
$\pi/6$	0.9865095	0.5392384	07.317798	
$\pi/20$	0.6597579	0.3295536	08.007898	

$\xi = 5$

σ_2	ψ_1	ψ_2	$\xi\,\psi_1/\psi_2$	
π	2.7545402	0.9400572	14.650918	
$5\pi/6$	2.7591376	0.9268888	14.883865	
$\pi/2$	2.7884660	0.8448278	16.503162	
$\pi/3$	2.8051146	0.7996142	17.540426	$\sigma_1 = \pi$
$\pi/4$	2.8119542	0.7813010	17.995331	
$\pi/6$	2.8171809	0.7674043	18.355258	
$\pi/20$	2.8211698	0.7568537	18.637485	
π	2.6627887	0.9500143	14.014467	
$5\pi/6$	2.6661280	0.9356919	14.246827	
$\pi/2$	2.6869036	0.8456740	15.886167	
$\pi/3$	2.6982158	0.7953943	16.961498	$\sigma_1 = 5\pi/6$
$\pi/4$	2.7027419	0.7748608	17.440178	
$\pi/6$	2.7061478	0.7592065	17.822211	
$\pi/20$	2.7087145	0.7472770	18.123898	
π	2.1747685	1.0238391	10.620656	
$5\pi/6$	2.1692599	1.0018477	10.826296	
$\pi/2$	2.1261726	0.8551881	12.431023	
$\pi/3$	2.0931169	0.7642836	13.693327	$\sigma_1 = \pi/2$
$\pi/4$	2.0768710	0.7244088	14.334937	
$\pi/6$	2.0631049	0.6926247	14.893383	
$\pi/20$	2.0516708	0.6674556	15.369342	
π	1.9359282	1.0779430	08.979734	
$5\pi/6$	1.9233978	1.0514974	09.145995	
$\pi/2$	1.8225003	0.8669474	10.511020	
$\pi/3$	1.7383745	0.7407684	11.733590	$\sigma_1 = \pi/3$
$\pi/4$	1.6933077	0.6803003	12.445296	
$\pi/6$	1.6523108	0.6286371	13.142008	
$\pi/20$	1.6156672	0.5847171	13.815802	
π	1.8424150	1.1036220	08.347129	
$5\pi/6$	1.8263594	1.0754438	08.491189	
$\pi/2$	1.6933516	0.8745409	09.681375	
$\pi/3$	1.5744264	0.7293549	10.793280	$\sigma_1 = \pi/4$
$\pi/4$	1.5056757	0.6552205	11.489839	
$\pi/6$	1.4383964	0.5877534	12.236394	
$\pi/20$	1.3726643	0.5256157	13.057679	
π	1.7724983	1.1247887	07.879250	
$5\pi/6$	1.7534582	1.0953743	08.003923	
$\pi/2$	1.5913620	0.8820724	09.020587	
$\pi/3$	1.4355592	0.7200247	09.968819	$\sigma_1 = \pi/6$
$\pi/4$	1.3369082	0.6313246	10.588120	
$\pi/6$	1.2294224	0.5431650	11.317208	
$\pi/20$	1.1048956	0.4487954	12.309569	
π	1.7200021	1.1419004	07.531314	
$5\pi/6$	1.6985050	1.1116152	07.639806	
$\pi/2$	1.5109992	0.8891732	08.496652	
$\pi/3$	1.3176504	0.7128253	09.242450	$\sigma_1 = \pi/20$
$\pi/4$	1.1817154	0.6090601	09.701139	
$\pi/6$	1.0069471	0.4921045	10.231030	
$\pi/20$	0.6734051	0.3008273	11.192554	

$\xi = 6$

σ_2	ψ_1	ψ_2	$\xi\,\psi_1/\psi_2$	
π	2.8126419	0.8629504	19.555991	
$5\pi/6$	2.8165007	0.8513458	19.849754	
$\pi/2$	2.8411522	0.7785986	21.894353	
$\pi/3$	2.8551708	0.7382172	23.205939	$\sigma_1 = \pi$
$\pi/4$	2.8609348	0.7218043	23.781528	
$\pi/6$	2.8653416	0.7093282	24.237088	
$\pi/20$	2.8687058	0.6998440	24.594386	
π	2.7174798	0.8721319	18.695428	
$5\pi/6$	2.7200920	0.8594678	18.989136	
$\pi/2$	2.7362042	0.7793939	21.064092	
$\pi/3$	2.7448440	0.7343319	22.427275	$\sigma_1 = 5\pi/6$
$\pi/4$	2.7482655	0.7158645	23.034517	
$\pi/6$	2.7508243	0.7017611	23.519323	
$\pi/20$	2.7527425	0.6909995	23.902269	
π	2.2147133	0.9405694	14.127910	
$5\pi/6$	2.2086849	0.9208314	14.391462	
$\pi/2$	2.1618518	0.7884441	16.451529	$\sigma_1 = \pi/2$
$\pi/3$	2.1262191	0.7058261	18.074302	
$\pi/4$	2.1087775	0.6694729	18.899444	
$\pi/6$	2.0940284	0.6404508	19.617698	
$\pi/20$	2.0817966	0.6174424	20.229871	
π	1.9683723	0.9915322	11.911094	
$5\pi/6$	1.9554802	0.9676242	12.125453	
$\pi/2$	1.8516673	0.7998369	13.890337	
$\pi/3$	1.7651278	0.6843946	15.474649	$\sigma_1 = \pi/3$
$\pi/4$	1.7187699	0.6289229	16.397272	
$\pi/6$	1.6765942	0.5814677	17.300300	
$\pi/20$	1.6388896	0.5410872	18.173294	
π	1.8715371	1.0160196	11.052171	
$5\pi/6$	1.8551749	0.9904747	11.238096	
$\pi/2$	1.7195420	0.8072908	12.780094	
$\pi/3$	1.5982196	0.6740771	14.225846	$\sigma_1 = \pi/4$
$\pi/4$	1.5280687	0.6058811	15.132362	
$\pi/6$	1.4594021	0.5437460	16.103867	
$\pi/20$	1.3922884	0.4864736	17.172014	
π	1.7989392	1.0363600	10.414948	
$5\pi/6$	1.7796230	1.0096435	10.575751	
$\pi/2$	1.6150280	0.8147517	11.893400	
$\pi/3$	1.4567286	0.6657415	13.128777	$\sigma_1 = \pi/6$
$\pi/4$	1.3564813	0.5839662	13.937260	
$\pi/6$	1.2472418	0.5025957	14.889605	
$\pi/20$	1.1206434	0.4154293	16.185331	
π	1.7443032	1.0529098	09.939901	
$5\pi/6$	1.7225431	1.0253681	10.079559	
$\pi/2$	1.5325328	0.8218450	11.188480	
$\pi/3$	1.3364474	0.6594420	12.159802	$\sigma_1 = \pi/20$
$\pi/4$	1.1985676	0.5636276	12.759142	
$\pi/6$	1.0212945	0.4554976	13.452906	
$\pi/20$	0.6829614	0.2784904	14.714219	

$\xi = 7$

σ_2	ψ_1	ψ_2	$\xi\,\psi_1/\psi_2$	
π	2.8556272	0.8022144	24.917766	
$5\pi/6$	2.8589476	0.7917491	25.276483	
$\pi/2$	2.8801850	0.7258607	27.775708	
$\pi/3$	2.8922807	0.6890873	29.380841	$\sigma_1 = \pi$
$\pi/4$	2.8972578	0.6741025	30.085640	
$\pi/6$	2.9010642	0.6626976	30.643614	
$\pi/20$	2.9039710	0.6540196	31.081327	
π	2.7579040	0.8107706	23.811085	
$5\pi/6$	2.7599838	0.7993213	24.170363	
$\pi/2$	2.7726800	0.7266110	26.711348	
$\pi/3$	2.7793608	0.6854676	28.382850	$\sigma_1 = 5\pi/6$
$\pi/4$	2.7819721	0.6685624	29.127879	
$\pi/6$	2.7839094	0.6556355	29.722865	
$\pi/20$	2.7853519	0.6457622	30.192944	
π	2.2443315	0.8747736	17.959298	
$5\pi/6$	2.2379116	0.8567338	18.285004	
$\pi/2$	2.1882697	0.7352234	20.834330	
$\pi/3$	2.1507154	0.6590069	22.844992	$\sigma_1 = \pi/2$
$\pi/4$	2.1323846	0.6253914	23.867762	
$\pi/6$	2.1169056	0.5985234	24.758161	
$\pi/20$	2.1040822	0.5772041	25.517102	
π	1.9924796	0.9229943	15.110990	
$5\pi/6$	1.9793134	0.9010267	15.377119	
$\pi/2$	1.8733028	0.7462118	17.572919	
$\pi/3$	1.7849541	0.6391911	19.547641	$\sigma_1 = \pi/3$
$\pi/4$	1.7376314	0.5876604	20.698042	
$\pi/6$	1.6945763	0.5435331	21.823940	
$\pi/20$	1.6560811	0.5059572	22.912149	
π	1.8931623	0.9463815	14.002953	
$5\pi/6$	1.8765696	0.9228606	14.233989	
$\pi/2$	1.7389720	0.7534719	16.155619	
$\pi/3$	1.6158599	0.6297113	17.962231	$\sigma = \pi/4$
$\pi/4$	1.5446648	0.5662304	19.095857	
$\pi/6$	1.4749642	0.5083391	20.310751	
$\pi/20$	1.4068212	0.4549450	21.646018	
π	1.8185359	0.9659249	13.178821	
$5\pi/6$	1.7990150	0.9412890	13.378575	
$\pi/2$	1.6325705	0.7607896	15.021226	
$\pi/3$	1.4724209	0.6221242	16.567345	$\sigma_1 = \pi/6$
$\pi/4$	1.3709890	0.5458761	17.580771	
$\pi/6$	1.2604464	0.4699381	18.775080	
$\pi/20$	1.1323092	0.3885452	20.399593	
π	1.7622632	0.9819077	12.563139	
$5\pi/6$	1.7403108	0.9564860	12.736386	
$\pi/2$	1.5484656	0.7677916	14.117449	
$\pi/3$	1.3503656	0.6164896	15.332876	$\sigma_1 = \pi/20$
$\pi/4$	1.2110492	0.5270444	16.084688	
$\pi/6$	1.0319237	0.4260055	16.956273	
$\pi/20$	0.6900537	0.2604943	18.543117	

$\xi = 10$

σ_2	ψ_1	ψ_2	$\xi\,\psi_1/\psi_2$	
π	2.9362412	0.6763229	43.414781	
$5\pi/6$	2.9385750	0.6679906	43.991266	
$\pi/2$	2.9535417	0.6151163	48.015990	$\sigma_1 = \pi$
$\pi/3$	2.9620941	0.5853101	50.607262	
$\pi/4$				
$\pi/6$				
$\pi/20$				
π	2.8336196	0.6835570	41.454035	
$5\pi/6$	2.8347192	0.6743977	42.033346	
$\pi/2$	2.8411140	0.6157629	46.139738	
$\pi/3$	2.8441727	0.5822463	48.848276	$\sigma_1 = 5\pi/6$
$\pi/4$	2.8452846	0.5684082	50.057061	
$\pi/6$	2.8460710	0.5578014	51.023017	
$\pi/20$	2.8466320	0.5496856	51.786545	
π	2.3000353	0.7379771	31.166758	
$5\pi/6$	2.2928685	0.7232550	31.702076	
$\pi/2$	2.2378912	0.6233038	35.903699	
$\pi/3$	2.1967065	0.5600044	39.226591	$\sigma_1 = \pi/2$
$\pi/4$	2.1767002	0.5319598	40.918513	
$\pi/6$	2.1598478	0.5094940	42.392013	
$\pi/20$	2.1459120	0.4916377	43.648240	
π	2.0379639	0.7798686	26.132143	
$5\pi/6$	2.0242686	0.7617634	26.573456	
$\pi/2$	1.9140448	0.6331682	30.229643	
$\pi/3$	1.8222508	0.5434694	33.529959	$\sigma_1 = \pi/3$
$\pi/4$	1.7730964	0.5001065	35.454377	
$\pi/6$	1.7283750	0.4629015	37.337859	
$\pi/20$	1.6883840	0.4311747	39.157773	
π	1.9339444	0.8005550	24.157545	
$5\pi/6$	1.9169108	0.7810914	24.541439	
$\pi/2$	1.7755730	0.6398074	27.751677	
$\pi/3$	1.6490654	0.5356563	30.785885	$\sigma_1 = \pi/4$
$\pi/4$	1.5758913	0.4820299	32.692814	
$\pi/6$	1.5042325	0.4330383	34.736709	
$\pi/20$	1.4341425	0.3877962	36.981860	
π	1.8554115	0.8180496	22.680917	
$5\pi/6$	1.8355051	0.7976044	23.012724	
$\pi/2$	1.6655856	0.6465903	25.759520	
$\pi/3$	1.5019550	0.5295236	28.364269	$\sigma_1 = \pi/6$
$\pi/4$	1.3982909	0.4649064	30.076826	
$\pi/6$	1.2852909	0.4004396	32.097002	
$\pi/20$	1.1542489	0.3312639	34.843786	
π				
$5\pi/6$	1.7736308	0.8113681	21.859756	
$\pi/2$	1.5783836	0.6531636	24.165211	
$\pi/3$	1.3765253	0.5251412	26.212479	$\sigma_1 = \pi/20$
$\pi/4$	1.2345178	0.4491625	27.484882	
$\pi/6$	1.0519166	0.3631764	28.964345	
$\pi/20$				