

Table 1: Normal Shock Table (for air only, $\gamma = 1.4$).

M_1	$\frac{\rho_2}{\rho_1}$	$\frac{P_2}{P_1}$	$\frac{T_2}{T_1}$	M_2	$\frac{P_{T2}}{P_{T1}}$	$\frac{P_{T2}}{P_1}$	M_1	$\frac{\rho_2}{\rho_1}$	$\frac{P_2}{P_1}$	$\frac{T_2}{T_1}$	M_2	$\frac{P_{T2}}{P_{T1}}$	$\frac{P_{T2}}{P_1}$
1.00	1.0000	1.0000	1.0000	1.0000	1.0000	1.8929	2.02	2.6962	4.5938	1.7038	0.5740	0.7115	5.7433
1.02	1.0334	1.0471	1.0132	0.9805	1.0000	1.9379	2.04	2.7255	4.6885	1.7203	0.5707	0.7022	5.8473
1.04	1.0671	1.0952	1.0263	0.9620	0.9999	1.9844	2.06	2.7545	4.7842	1.7369	0.5675	0.6928	5.9523
1.06	1.1009	1.1442	1.0393	0.9444	0.9998	2.0325	2.08	2.7833	4.8808	1.7536	0.5643	0.6835	6.0583
1.08	1.1349	1.1941	1.0522	0.9277	0.9994	2.0819	2.10	2.8119	4.9783	1.7705	0.5613	0.6742	6.1654
1.10	1.1691	1.2450	1.0649	0.9118	0.9989	2.1328	2.12	2.8402	5.0768	1.7875	0.5583	0.6649	6.2735
1.12	1.2034	1.2968	1.0776	0.8966	0.9982	2.1851	2.14	2.8683	5.1762	1.8046	0.5554	0.6557	6.3827
1.14	1.2378	1.3495	1.0903	0.8820	0.9973	2.2388	2.16	2.8962	5.2765	1.8219	0.5525	0.6464	6.4929
1.16	1.2723	1.4032	1.1029	0.8682	0.9961	2.2937	2.18	2.9238	5.3778	1.8393	0.5498	0.6373	6.6042
1.18	1.3069	1.4578	1.1154	0.8549	0.9946	2.3500	2.20	2.9512	5.4800	1.8569	0.5471	0.6281	6.7165
1.20	1.3416	1.5133	1.1280	0.8422	0.9928	2.4075	2.22	2.9784	5.5831	1.8746	0.5444	0.6191	6.8298
1.22	1.3764	1.5698	1.1405	0.8300	0.9907	2.4663	2.24	3.0053	5.6872	1.8924	0.5418	0.6100	6.9442
1.24	1.4112	1.6272	1.1531	0.8183	0.9884	2.5263	2.26	3.0319	5.7922	1.9104	0.5393	0.6011	7.0597
1.26	1.4460	1.6855	1.1657	0.8071	0.9857	2.5875	2.28	3.0584	5.8981	1.9285	0.5368	0.5921	7.1762
1.28	1.4808	1.7448	1.1783	0.7963	0.9827	2.6500	2.30	3.0845	6.0050	1.9468	0.5344	0.5833	7.2937
1.30	1.5157	1.8050	1.1909	0.7860	0.9794	2.7136	2.32	3.1105	6.1128	1.9652	0.5321	0.5745	7.4122
1.32	1.5505	1.8661	1.2035	0.7760	0.9758	2.7784	2.34	3.1362	6.2215	1.9838	0.5297	0.5658	7.5319
1.34	1.5854	1.9282	1.2162	0.7664	0.9718	2.8444	2.36	3.1617	6.3312	2.0025	0.5275	0.5572	7.6525
1.36	1.6202	1.9912	1.2290	0.7572	0.9676	2.9115	2.38	3.1869	6.4418	2.0213	0.5253	0.5486	7.7742
1.38	1.6549	2.0551	1.2418	0.7483	0.9630	2.9798	2.40	3.2119	6.5533	2.0403	0.5231	0.5401	7.8969
1.40	1.6897	2.1200	1.2547	0.7397	0.9582	3.0492	2.42	3.2367	6.6658	2.0595	0.5210	0.5317	8.0207
1.42	1.7243	2.1858	1.2676	0.7314	0.9531	3.1198	2.44	3.2612	6.7792	2.0788	0.5189	0.5234	8.1455
1.44	1.7589	2.2525	1.2807	0.7235	0.9476	3.1915	2.46	3.2855	6.8935	2.0982	0.5169	0.5152	8.2713
1.46	1.7934	2.3202	1.2938	0.7157	0.9420	3.2643	2.48	3.3095	7.0088	2.1178	0.5149	0.5071	8.3982
1.48	1.8278	2.3888	1.3069	0.7083	0.9360	3.3382	2.50	3.3333	7.1250	2.1375	0.5130	0.4990	8.5261
1.50	1.8621	2.4583	1.3202	0.7011	0.9298	3.4133	2.52	3.3569	7.2421	2.1574	0.5111	0.4911	8.6551
1.52	1.8963	2.5288	1.3336	0.6941	0.9233	3.4894	2.54	3.3803	7.3602	2.1774	0.5092	0.4832	8.7851
1.54	1.9303	2.6002	1.3470	0.6874	0.9166	3.5667	2.56	3.4034	7.4792	2.1976	0.5074	0.4754	8.9161
1.56	1.9643	2.6725	1.3606	0.6809	0.9097	3.6450	2.58	3.4263	7.5991	2.2179	0.5056	0.4677	9.0482
1.58	1.9981	2.7458	1.3742	0.6746	0.9026	3.7244	2.60	3.4490	7.7200	2.2383	0.5039	0.4601	9.1813
1.60	2.0317	2.8200	1.3880	0.6684	0.8952	3.8050	2.62	3.4714	7.8418	2.2590	0.5022	0.4526	9.3155
1.62	2.0653	2.8951	1.4018	0.6625	0.8877	3.8866	2.64	3.4937	7.9645	2.2797	0.5005	0.4452	9.4506
1.64	2.0986	2.9712	1.4158	0.6568	0.8799	3.9693	2.66	3.5157	8.0882	2.3006	0.4988	0.4379	9.5869
1.66	2.1318	3.0482	1.4299	0.6512	0.8720	4.0531	2.68	3.5374	8.2128	2.3217	0.4972	0.4307	9.7241
1.68	2.1649	3.1261	1.4440	0.6458	0.8639	4.1379	2.70	3.5590	8.3383	2.3429	0.4956	0.4236	9.8624
1.70	2.1977	3.2050	1.4583	0.6405	0.8557	4.2238	2.72	3.5803	8.4648	2.3642	0.4941	0.4166	10.0017
1.72	2.2304	3.2848	1.4727	0.6355	0.8474	4.3108	2.74	3.6015	8.5922	2.3858	0.4926	0.4097	10.1421
1.74	2.2629	3.3655	1.4873	0.6305	0.8389	4.3989	2.76	3.6224	8.7205	2.4074	0.4911	0.4028	10.2835
1.76	2.2952	3.4472	1.5019	0.6257	0.8302	4.4880	2.78	3.6431	8.8498	2.4292	0.4896	0.3961	10.4259
1.78	2.3273	3.5298	1.5167	0.6210	0.8215	4.5782	2.80	3.6636	8.9800	2.4512	0.4882	0.3895	10.5694
1.80	2.3592	3.6133	1.5316	0.6165	0.8127	4.6695	2.82	3.6838	9.1111	2.4733	0.4868	0.3829	10.7139
1.82	2.3909	3.6978	1.5466	0.6121	0.8038	4.7618	2.84	3.7039	9.2432	2.4955	0.4854	0.3765	10.8594
1.84	2.4224	3.7832	1.5617	0.6078	0.7948	4.8552	2.86	3.7238	9.3762	2.5179	0.4840	0.3701	11.0060
1.86	2.4537	3.8695	1.5770	0.6036	0.7857	4.9497	2.88	3.7434	9.5101	2.5405	0.4827	0.3639	11.1536
1.88	2.4848	3.9568	1.5924	0.5996	0.7765	5.0452	2.90	3.7629	9.6450	2.5632	0.4814	0.3577	11.3022
1.90	2.5157	4.0450	1.6079	0.5956	0.7674	5.1418	2.92	3.7821	9.7808	2.5861	0.4801	0.3517	11.4519
1.92	2.5463	4.1341	1.6236	0.5918	0.7581	5.2394	2.94	3.8012	9.9175	2.6091	0.4788	0.3457	11.6026
1.94	2.5767	4.2242	1.6394	0.5880	0.7488	5.3381	2.96	3.8200	10.0552	2.6322	0.4776	0.3398	11.7544
1.96	2.6069	4.3152	1.6553	0.5844	0.7395	5.4378	2.98	3.8387	10.1938	2.6555	0.4764	0.3340	11.9072
1.98	2.6369	4.4071	1.6713	0.5808	0.7302	5.5386	3.00	3.8571	10.3333	2.6790	0.4752	0.3283	12.0610
2.00	2.6667	4.5000	1.6875	0.5774	0.7209	5.6404	3.02	3.8754	10.4738	2.7026	0.4740	0.3227	12.2158

M_1	$\frac{\rho_2}{\rho_1}$	$\frac{P_2}{P_1}$	$\frac{T_2}{T_1}$	M_2	$\frac{P_{T_2}}{P_{T_1}}$	$\frac{P_{T_2}}{P_1}$	M_1	$\frac{\rho_2}{\rho_1}$	$\frac{P_2}{P_1}$	$\frac{T_2}{T_1}$	M_2	$\frac{P_{T_2}}{P_{T_1}}$	$\frac{P_{T_2}}{P_1}$
3.04	3.8935	10.6152	2.7264	0.4729	0.3172	12.3717	4.02	4.5823	18.6871	4.0782	0.4344	0.1364	21.2745
3.06	3.9114	10.7575	2.7503	0.4717	0.3118	12.5286	4.04	4.5930	18.8752	4.1096	0.4339	0.1342	21.4820
3.08	3.9291	10.9008	2.7744	0.4706	0.3065	12.6865	4.06	4.6036	19.0642	4.1412	0.4334	0.1319	21.6905
3.10	3.9466	11.0450	2.7986	0.4695	0.3012	12.8455	4.08	4.6141	19.2541	4.1729	0.4329	0.1297	21.9001
3.12	3.9639	11.1901	2.8230	0.4685	0.2960	13.0055	4.10	4.6245	19.4450	4.2048	0.4324	0.1276	22.1106
3.14	3.9811	11.3362	2.8475	0.4674	0.2910	13.1666	4.12	4.6348	19.6368	4.2368	0.4319	0.1254	22.3223
3.16	3.9981	11.4832	2.8722	0.4664	0.2860	13.3287	4.14	4.6450	19.8295	4.2690	0.4314	0.1234	22.5349
3.18	4.0149	11.6311	2.8970	0.4654	0.2811	13.4918	4.16	4.6550	20.0232	4.3014	0.4309	0.1213	22.7486
3.20	4.0315	11.7800	2.9220	0.4643	0.2762	13.6559	4.18	4.6650	20.2178	4.3339	0.4304	0.1193	22.9633
3.22	4.0479	11.9298	2.9471	0.4634	0.2715	13.8211	4.20	4.6749	20.4133	4.3666	0.4299	0.1173	23.1790
3.24	4.0642	12.0805	2.9724	0.4624	0.2668	13.9873	4.22	4.6847	20.6098	4.3994	0.4295	0.1154	23.3958
3.26	4.0803	12.2322	2.9979	0.4614	0.2622	14.1546	4.24	4.6944	20.8072	4.4324	0.4290	0.1135	23.6135
3.28	4.0963	12.3848	3.0234	0.4605	0.2577	14.3228	4.26	4.7040	21.0055	4.4655	0.4286	0.1116	23.8324
3.30	4.1120	12.5383	3.0492	0.4596	0.2533	14.4921	4.28	4.7135	21.2048	4.4988	0.4281	0.1098	24.0522
3.32	4.1276	12.6928	3.0751	0.4587	0.2489	14.6625	4.30	4.7229	21.4050	4.5322	0.4277	0.1080	24.2731
3.34	4.1431	12.8482	3.1011	0.4578	0.2446	14.8339	4.32	4.7322	21.6061	4.5658	0.4272	0.1062	24.4950
3.36	4.1583	13.0045	3.1273	0.4569	0.2404	15.0063	4.34	4.7414	21.8082	4.5995	0.4268	0.1045	24.7180
3.38	4.1734	13.1618	3.1537	0.4560	0.2363	15.1797	4.36	4.7505	22.0112	4.6334	0.4264	0.1028	24.9420
3.40	4.1884	13.3200	3.1802	0.4552	0.2322	15.3542	4.38	4.7595	22.2151	4.6675	0.4260	0.1011	25.1670
3.42	4.2032	13.4791	3.2069	0.4544	0.2282	15.5297	4.40	4.7685	22.4200	4.7017	0.4255	0.0995	25.3930
3.44	4.2179	13.6392	3.2337	0.4535	0.2243	15.7062	4.42	4.7773	22.6258	4.7361	0.4251	0.0979	25.6201
3.46	4.2323	13.8002	3.2607	0.4527	0.2205	15.8838	4.44	4.7861	22.8325	4.7706	0.4247	0.0963	25.8482
3.48	4.2467	13.9621	3.2878	0.4519	0.2167	16.0624	4.46	4.7948	23.0402	4.8053	0.4243	0.0947	26.0773
3.50	4.2609	14.1250	3.3151	0.4512	0.2129	16.2420	4.48	4.8034	23.2488	4.8401	0.4239	0.0932	26.3075
3.52	4.2749	14.2888	3.3425	0.4504	0.2093	16.4227	4.50	4.8119	23.4583	4.8751	0.4236	0.0917	26.5387
3.54	4.2888	14.4535	3.3701	0.4496	0.2057	16.6044	4.52	4.8203	23.6688	4.9102	0.4232	0.0902	26.7709
3.56	4.3026	14.6192	3.3978	0.4489	0.2022	16.7871	4.54	4.8287	23.8802	4.9455	0.4228	0.0888	27.0041
3.58	4.3162	14.7858	3.4257	0.4481	0.1987	16.9708	4.56	4.8369	24.0925	4.9810	0.4224	0.0874	27.2384
3.60	4.3296	14.9533	3.4537	0.4474	0.1953	17.1556	4.58	4.8451	24.3058	5.0166	0.4220	0.0860	27.4737
3.62	4.3429	15.1218	3.4819	0.4467	0.1920	17.3415	4.60	4.8532	24.5200	5.0523	0.4217	0.0846	27.7101
3.64	4.3561	15.2912	3.5103	0.4460	0.1887	17.5283	4.62	4.8612	24.7351	5.0882	0.4213	0.0832	27.9475
3.66	4.3692	15.4615	3.5388	0.4453	0.1855	17.7162	4.64	4.8692	24.9512	5.1243	0.4210	0.0819	28.1859
3.68	4.3821	15.6328	3.5674	0.4446	0.1823	17.9051	4.66	4.8771	25.1682	5.1605	0.4206	0.0806	28.4253
3.70	4.3949	15.8050	3.5962	0.4439	0.1792	18.0951	4.68	4.8849	25.3861	5.1969	0.4203	0.0793	28.6658
3.72	4.4075	15.9781	3.6252	0.4433	0.1761	18.2860	4.70	4.8926	25.6050	5.2334	0.4199	0.0781	28.9073
3.74	4.4200	16.1522	3.6543	0.4426	0.1731	18.4781	4.72	4.9002	25.8248	5.2701	0.4196	0.0769	29.1498
3.76	4.4324	16.3272	3.6836	0.4420	0.1702	18.6711	4.74	4.9078	26.0455	5.3070	0.4192	0.0756	29.3934
3.78	4.4447	16.5031	3.7130	0.4414	0.1673	18.8652	4.76	4.9153	26.2672	5.3440	0.4189	0.0745	29.6380
3.80	4.4568	16.6800	3.7426	0.4407	0.1645	19.0603	4.78	4.9227	26.4898	5.3811	0.4186	0.0733	29.8836
3.82	4.4688	16.8578	3.7723	0.4401	0.1617	19.2564	4.80	4.9301	26.7133	5.4184	0.4183	0.0721	30.1303
3.84	4.4807	17.0365	3.8022	0.4395	0.1589	19.4536	4.82	4.9374	26.9378	5.4559	0.4179	0.0710	30.3779
3.86	4.4924	17.2162	3.8323	0.4389	0.1563	19.6518	4.84	4.9446	27.1632	5.4935	0.4176	0.0699	30.6267
3.88	4.5041	17.3968	3.8625	0.4383	0.1536	19.8510	4.86	4.9518	27.3895	5.5313	0.4173	0.0688	30.8764
3.90	4.5156	17.5783	3.8928	0.4377	0.1510	20.0513	4.88	4.9589	27.6168	5.5692	0.4170	0.0677	31.1272
3.92	4.5270	17.7608	3.9233	0.4372	0.1485	20.2526	4.90	4.9659	27.8450	5.6073	0.4167	0.0667	31.3790
3.94	4.5383	17.9442	3.9540	0.4366	0.1460	20.4549	4.92	4.9728	28.0741	5.6455	0.4164	0.0657	31.6318
3.96	4.5494	18.1285	3.9848	0.4360	0.1435	20.6583	4.94	4.9797	28.3042	5.6839	0.4161	0.0647	31.8857
3.98	4.5605	18.3138	4.0158	0.4355	0.1411	20.8627	4.96	4.9865	28.5352	5.7224	0.4158	0.0637	32.1406
4.00	4.5714	18.5000	4.0469	0.4350	0.1388	21.0681	4.98	4.9933	28.7671	5.7611	0.4155	0.0627	32.3965