

Pressure to Altitude

Pressure (hPa)	Pressure (mmHg)	Pressure (inHg)	Pressure (atm)	Altitude (ft)	Altitude (m)
1013.25	760	29.92	1.000	0	0
1000	750	29.53	0.987	364	111
950	713	28.05	0.938	1773	540
900	675	26.58	0.888	3243	989
850	638	25.10	0.839	4781	1457
800	600	23.62	0.790	6394	1949
750	563	22.15	0.740	8091	2466
700	525	20.67	0.691	9882	3012
650	488	19.19	0.642	11780	3591
600	450	17.72	0.592	13801	4206
550	413	16.24	0.543	15962	4865
500	375	14.76	0.493	18289	5574
450	338	13.29	0.444	20812	6344
400	300	11.81	0.395	23574	7185
350	263	10.34	0.345	26631	8117
300	225	8.86	0.296	30065	9164
250	188	7.38	0.247	33999	10363
200	150	5.91	0.197	38632	11775
150	113	4.43	0.148	44321	13509
100	75	2.95	0.099	51828	15797
50	38	1.48	0.049	63395	19323

The Maths

$$\text{Altitude} = (10^{(\log(P/P_0)/5.2558797)} - 1) / (-6.8755856 \times 10^{-6})$$

Where P = is atmospheric pressure at Altitude and

P₀ = the Sea Level pressure

Altitude is in feet

P & P₀ are unit independent and expressed as a ratio

Altitude to Pressure

Altitude (ft)	Altitude (m)	Pressure (hPa)	Pressure (mmHg)	Pressure (inHg)	Pressure (atm)
0	0	1013.25	760	29.92	1.000
1000	305	977.17	733	28.86	0.964
2000	610	942.13	707	27.82	0.930
3000	914	908.12	681	26.82	0.896
4000	1219	875.10	656	25.84	0.864
5000	1524	843.07	632	24.90	0.832
6000	1829	811.99	609	23.98	0.801
7000	2134	781.85	586	23.09	0.772
8000	2438	752.62	565	22.22	0.743
9000	2743	724.28	543	21.39	0.715
10000	3048	696.81	523	20.58	0.688
11000	3353	670.20	503	19.79	0.661
12000	3658	644.41	483	19.03	0.636
13000	3962	619.43	465	18.29	0.611
14000	4267	595.24	446	17.58	0.587
15000	4572	571.82	429	16.89	0.564
16000	4877	549.15	412	16.22	0.542
17000	5182	527.22	395	15.57	0.520
18000	5486	506.00	380	14.94	0.499
19000	5791	485.47	364	14.34	0.479
20000	6096	465.63	349	13.75	0.460
21000	6401	446.45	335	13.18	0.441
22000	6706	427.91	321	12.64	0.422
23000	7010	410.00	308	12.11	0.405
24000	7315	392.71	295	11.60	0.388
25000	7620	376.01	282	11.10	0.371
26000	7925	359.89	270	10.63	0.355
27000	8230	344.33	258	10.17	0.340
28000	8534	329.32	247	9.72	0.325
29000	8839	314.85	236	9.30	0.311
30000	9144	300.89	226	8.89	0.297
31000	9449	287.45	216	8.49	0.284
32000	9754	274.49	206	8.11	0.271
33000	10058	262.01	197	7.74	0.259
34000	10363	249.99	188	7.38	0.247
35000	10668	238.42	179	7.04	0.235
36000	10973	227.29	170	6.71	0.224
37000	11278	216.59	162	6.40	0.214
38000	11582	206.29	155	6.09	0.204
39000	11887	196.40	147	5.80	0.194
40000	12192	186.89	140	5.52	0.184

The Maths

$$P_a = P_o (1 - 6.87535 \times 10^{-6} H_c)^{5.2561}$$

where P_a is the air pressure at altitude H_c at a given sea level pressure P_o and where $^{5.2561}$ means "raised to the power of 5.2561".