

BALL BEARING FALLING AT TERMINAL SPEED IN SHOWER GEL
10/10/2020

Shower gel density /kgm^-3	1000
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Strength of gravity /Nkg^-1	9.81
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											lower bound error /ms ⁻¹	upper bound error /ms ⁻¹		
+0.01mm		+0.005g	mean	lower bound	upper bound						+0.1 cm	mean	lower bound error /ms ⁻¹	upper bound error /ms ⁻¹
ball bearing radius /mm	ball bearing mass /g	ball bearing density /kg/m ³	ball bearing density /kg/m ⁴	ball bearing density /kg/m ⁵	t1/s	t2/s	t3/s	mean t /s	t error /s	d/cm	drop speed /ms ⁻¹	drop speed error /ms ⁻¹	drop speed error/ms ⁻¹	
1.99	0.24	7270	7013	7535	15.93	16.36	16.07	16.12	0.22	3.80	2.36E-03	9.28E-05	9.54E-05	
1.48	0.10	7439	6926	7972	13.68	13.46	13.15	13.43	0.27	1.80	1.34E-03	9.91E-05	1.03E-04	
0.98	0.03	7609	6151	9155	66.35	65.30	65.29	65.65	0.61	2.00	3.05E-04	1.79E-05	1.82E-05	
2.99	0.86	7681	7560	7803	27.95	28.07	28.62	28.21	0.36	11.70	4.15E-03	8.69E-05	8.91E-05	
1.98	0.25	7689	7422	7963	18.17	17.27	17.47	17.64	0.47	1.91	1.08E-03	8.35E-05	8.81E-05	
4.77	3.52	7743	7683	7803	13.53	14.54	14.49	14.19	0.57	11.70	8.25E-03	3.86E-04	4.18E-04	
4.77	3.52	7743	7683	7803	27.28	27.61	25.99	26.96	0.86	9.90	3.67E-03	1.49E-04	1.59E-04	
6.36	8.38	7776	7735	7818	14.10	14.20	15.20	14.50	0.61	13.70	9.45E-03	4.47E-04	4.86E-04	
3.01	0.89	7791	7671	7914	15.40	16.90	16.50	16.27	0.78	5.80	3.57E-03	2.21E-04	2.43E-04	
2.49	0.51	7886	7716	8061	25.47	23.87	25.20	24.85	0.86	3.85	1.55E-03	9.05E-05	9.70E-05	
4.74	3.52	7891	7830	7952	22.03	20.85	21.87	21.58	0.64	7.90	3.66E-03	1.50E-04	1.60E-04	
2.48	0.51	8031	7856	8209	37.45	37.83	37.33	37.54	0.26	11.70	3.12E-03	4.80E-05	4.87E-05	
1.48	0.12	8837	8299	9394	29.40	28.00	29.60	29.00	0.87	2.00	6.90E-04	5.36E-05	5.69E-05	
1.01	0.04	9268	7874	10743	24.30	22.50	25.80	24.20	1.65	0.90	3.72E-04	6.25E-05	7.16E-05	

(2/9)*(r^2)*g*(rho-rho_g)	lower bound error	upper bound error
5.41E-02	2.75E-03	2.85E-03
3.05E-02	2.82E-03	2.98E-03
1.38E-02	3.27E-03	3.59E-03
1.30E-01	3.21E-03	3.28E-03
5.72E-02	2.83E-03	2.94E-03
3.34E-01	4.34E-03	4.39E-03
3.34E-01	4.34E-03	4.39E-03
5.98E-01	5.50E-03	5.55E-03
1.34E-01	3.25E-03	3.33E-03
9.31E-02	3.03E-03	3.12E-03
3.38E-01	4.39E-03	4.45E-03
9.39E-02	3.07E-03	3.15E-03
3.74E-02	3.04E-03	3.20E-03
1.84E-02	3.40E-03	3.71E-03

