
Use $\rho = 1.225 \text{ kg/m}^3$ unless told otherwise. Give answers to 3 significant figures.

Problem	Answer	Problem	Answer
1. A ball: C_d 0.47, A 0.038 m ² , v 20 m/s. Drag force?		4. Drag at 60 m/s compared with 30 m/s?	
2. A car: C_d 0.30, A 2.2 m ² , v 30 m/s. Drag force?		5. Cyclist: C_dA 0.30 m ² , 10 m/s. Drag force?	
3. The same car: power to overcome drag at 30 m/s?		6. Skydiver 80 kg, C_dA 0.70 m ² . Terminal velocity?	

Notes

Answer key — Drag equation practice

#	Problem	Answer
1	A ball: C_d 0.47, A 0.038 m ² , v 20 m/s. Drag force?	4.38 N
2	A car: C_d 0.30, A 2.2 m ² , v 30 m/s. Drag force?	364 N
3	The same car: power to overcome drag at 30 m/s?	10.9 kW
4	Drag at 60 m/s compared with 30 m/s?	4 times as large
5	Cyclist: C_dA 0.30 m ² , 10 m/s. Drag force?	18.4 N
6	Skydiver 80 kg, C_dA 0.70 m ² . Terminal velocity?	42.8 m/s (154 km/h)

Notes