



5. An aircraft with a mass of 147,300 kg is flying at an altitude of 5000 m. It has a coefficient of lift of 0.2 and the surface area of the wings is 200 m². Calculate the velocity needed for level flight.

6. A Boeing 777 is flying at an altitude of 10,000 m at a velocity of 240 m s⁻¹. Assuming that the aircraft is at the maximum take-off weight, determine the angle of attack necessary for it to maintain level flight.



Flying by Numbers – Answers

1. $s = 2 L / (d \times v^2 \times C_L)$
2. 32 m^2
3. $v = \sqrt{2L / (d \times s \times C_L)}$
4. 120 m s^{-1}
5. 100 m s^{-1}
6. (Approximately) -2 degrees.