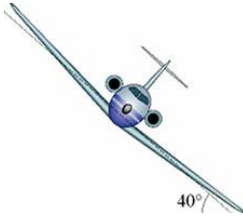# Additional Centripetal Force Problems

Name: _____ Date: _____

1. An airplane is flying in a horizontal circle at a speed of 460 km/h. If its wings are tilted 40° to the horizontal, what is the radius of the circle in which the plane is flying? Assume that the required force is provided entirely by an "aerodynamic lift" that is perpendicular to the wing surface.

2. A small block of mass m can slide along a frictionless loop-the-loop track shown in the diagram. Calculate the height above the bottom of the loop must the block be released from rest so that the normal force is twice its mass when at the top of the loop. [use energy conservation and circular motion] The answer for h will be in terms of the radius R.