Introduction to Flight – In-Flight Exercises

1. Visualize stall with yarns taped on the right wing. How does the stall pattern progress over the wing surface: from tip or root? How does it compare to book description for the wing shapes (rectangular, tapered and elliptical)?

2. Determine of stall speeds with flaps at:
   a. 0°: ___________ knots
   b. 10°: ___________ knots
   c. 25°: ___________ knots
   d. 40°: ___________ knots

3. Determine stall speed in coordinated turns:
   a. How does stall speed change with bank angle at 30° bank? ___________ knots
   b. Do the observations agree with the theory?

4. Measure G forces in turns at different bank angles (and compare results with theory) at:
   a. 10° bank: ______ g
   b. 20° bank: ______ g
   c. 30° bank: ______ g
   d. 45° bank: ______ g

5. Does G force change with increasing airspeed at a constant bank angle (e.g. 30°)? Do the observations agree with the theory?

6. Stability after a perturbation: How many oscillations does it take for the airplane to stabilize after a perturbation to:
   a. Roll axis (ailerons)
   b. Pitch axis (elevator)
   c. Yaw axis (rudder)

7. Observe the angles of attack during landing approaches without flaps and with flaps. Are they the same or different? Explain your observations.