Stagnation Pressure:

* where the pressure is largest along a streamline
* @ V= 0

D’Alembert’s Paradox:

* Established proof of viscous flow

Internal vs External Flow:

* Internal: flow where the control volume is bounded on all sides
* External: flow where the control volume is bounded on only one side

Continuum Fluid:

* The deformation does not cause the fluid to fail, it causes it to continuously deform

Similarity:

* Geometric: the model and prototype differ by some scale factor
* Dynamic: (Force)
  + Forces on the model will vary by some scale factor
  + FORCES ARE IN SAME DIRECTION
* Kinematic: (Velocity)
  + Velocities on them model vary by some scale factor
  + VELOCITIES ARE IN SAME DIRECTION

How a pitostatic probe works:

<http://www.efunda.com/designstandards/sensors/pitot_tubes/pitot_tubes_theory.cfm>

What are streamlines:

* Line in the flow tangent to local velocity vectors

Why golf balls are dimpled:

* To produce turbulent flow that will decrease pressure drag

Magnus Effect:

* The spinning effect on a sphere causes an upward lift
* This is because a larger velocity is produced upstairs and a smaller velocity is produced downstairs (Thus lift‼!)

Relative Magnitude of turbulent and laminar shear stress:

Why aren’t automobiles completely streamlined:

* It is not cost effective