

Commercial SEL Homework Assignment

here is a little homework assignment that will speed up the oral part of the exam:

Commercial specific

- 1) how much ballast would we have to add to the aircraft luggage compartment area to move the planned CG aft 1 inch?
- 2) Describe the concept of Zero Fuel weight and how you might use it in a situation where you wanted to maximize passenger and payload and minimize the amount of fuel you would take on (taking off from a high elevation airport on a hot day traveling a relatively short distance away)
- 3) Calculate your takeoff and landing distances at KGIF on a standard day and compare them to Taking off and landing at KRIL on a 70 F-degree day with baro=29.92 inch Hg.
- 4) Explain why takeoff and landing distances are longer at the higher density altitudes.
- 5) what airspeeds would you use for takeoff and landing at a high-density altitude airport and why?
- 6) Describe how you would maximize performance taking off from a high-density altitude airport: How you would lean, how load aircraft, determine abort point on takeoff, climb performance considering terrain, time of day consider departing.
- 7) Describe how weight, load factor (bank or pitch changes), and CG affect the onset and recovery from a stall.
- 8) describe the benefits and risks of loading aircraft toward the AFT CG limits for stall speed, stall recovery, approach speed, fuel burn, cruise speed, how the controls respond
- 9) Describe the fuel system on your aircraft and how an icing encounter where the fuel vents become plugged might affect fuel flow to engine
- 10) Describe the risks and mitigation strategies for flying from Florida to the Bahamas and the required equipment for commercial flight.
- 11) describe how a typical pressurization system works and how you would handle a sudden decompression while at FL 240. What are the oxygen requirements for pilots, crew and passengers?
- 12) describe briefly the types of oxygen delivery systems for non-pressurized aircraft and when they are used for pilot, crew and passengers.