

## Aircraft Weight and Balance and Performance Review

For each of these problems be prepared to work through how you obtained your solution as well as the actual solution and a decision on acceptable flight conditions. In each case choose your actual aircraft, the aircraft you most commonly rent and the aircraft you will be using for the checkride (if this review is in preparation for a checkride).

Your aircraft has full fuel loaded onboard and you have the following passengers:

- 2 @ 210lbs
- 1 @ 95 lbs
- Baggage @ 45 lbs

Can the aircraft be loaded within weight and balance limits?

You have the following passengers:

- 1 @ 275 lbs
- 1 @ 170 lbs
- Baggage @ 25 lbs

How much fuel can you take and remain within weight and balance limits?

You have a cargo load of 140 lbs and it's just you and full fuel tanks. Can you load the airplane within weight and balance limits?

Under the following conditions what is your landing distance over a 50ft obstacle, landing roll, takeoff roll and takeoff distance over a 50ft obstacle using runway 23?

- Altitude 1400MSL
- Temperature 24C
- Maximum Takeoff Weight
- Wind [320@14K](#)
- Runway Surface Smooth

Under the following conditions should you attempt a takeoff on runway 14, length 2400ft?

- Altitude 2000MSL
- Temperature 31C
- Maximum Takeoff Weight
- Wind [040@4K](#)
- Runway Surface Well Maintained Grass

Under the following conditions what is your landing distance over a 50ft obstacle, landing roll, takeoff roll and takeoff distance over a 50ft obstacle using runway 04?

- Altitude 5000MSL
- Temperature 32C
- Maximum Takeoff Weight
- Wind [320@14K](#)
- Runway Surface Smooth