Use all the following information and pages to answer the questions. Make sure that you carefully go the included information so that you will be able to answer the questions. I would suggest using all the included charts and tables to calculate your answers.

Standard Weight Max Gross 4200lbs

1. Use the following data to calculate the basic empty weight and CG of the aircraft.

Nose Weight 782lbs @ 37.6 ~~28 012~~ 29 403.2

Right Main 935lbs @ 101 ~~95 900~~ 94435

Left Main 965lbs @ 101 ~~91 910~~ 97465

Left Main Tare 25lbs ~~210 822~~

Right Main Tare 25lbs

Licensed Empty Weight: ~~2625~~ 2682 EWCG: 82.56 Moment: ~~215 392~~ 221303.2

2. The following was removed:

Auto pilot servo 28lbs @ 190 5320

Auto pilot controls 8lbs @ 64.2 513.6

Child seat 8lbs @ 170 1360

3. The following was added:

Flight Computer 25lbs @ 58.6 1465

Flight Computer Display 8lbs @ 64.2 513.6

Fire Extinguisher 6.6lbs @ 85.5 564.3

4. Calculate the new basic empty weight and CG based on the changes in items 2 and 3 above. Record the data in the weight and balance charts and record sheets.

New Basic Empty Weight: ~~2673.6~~ 2677.6 EWCG: ______________ Moment: ______________

5. Using the number from above move the CG to 82.5" aft of the datum by adding ballast in the aft baggage compartment. Calculate the new basic empty weight of the aircraft after adding the ballast in the aft baggage compartment.

   Ballast Weight _____ Ballast Moment _____

   New Basic Empty Weight _____ EWCG: _____ Moment: _____

6. What is the aircrafts useful load?

   Useful Load: _____

7. Load the airplane for flight as follows:

Pilot and Co-pilot	395lbs
Center Seat (x2)	105lbs
Rear Seat (x2)	450lbs
Forward Baggage	35lbs
Rear Baggage	65lbs
Fuel	?
Taxi Fuel Burn	35lbs

   Payload Total Weight _____ Payload Total Moment _____

8. Calculate how much fuel the aircraft can carry give the current cargo load.

   Fuel Load _____

9. For the airplane loaded in step 5 calculate the following

   Zero fuel weight _____

   Ramp weight _____

10. Considering the taxi fuel burn what is the takeoff weight of the aircraft.

    Takeoff weight: _____ Takeoff CG: _____

11. The aircraft burned 260lbs of fuel in flight. What is the aircraft landing weight and CG?

    Landing weight: _____ Landing CG: _____

Additional Information and Charts

When doing the Scale Weight, got take off the Tare

Airplane Empty Weight

Scale Position	Scale Reading	Tare	Net Weight
Nose Wheel (N)			
Right Main Wheel (R)			
Left Main Wheel (L)			
Airplane Empty Weight as Weight (T)			

Airplane Basic Weight

Item	Weight	Arm	Moment
Empty Weight (as weighed)			
Unusable Fuel (5 gal)	+30	103.0	+3090
Oil (16 quarts)	+30	49.0	+1470
Licensed Empty Weight			

Airplane useful load -normal category operation

(Gross Weight)-(Licensed Empty Weight)=Useful Load

Loading Chart

	Weight	Arm	Moment
Basic Empty Weight	2757.34		
Pilot and Co-pilot	340	85.5	
Passengers (Center)	390	118.1	
Passengers (Rear)	400	155.7	
Passengers (Jump)		118.1	
Fuel		93.6	
Baggage (Forward)		22.5	
Baggage (Rear)		178.7	

Airplane Model: | Serial Number: | Page Number:

Date	Item NO.		Description Of Articles or Modification	Weight Change						Running Basic Empty Weight	
				Added (+)			Removed (-)				
	In	Out		Wt.	Arm	Moment	Wt.	Arm	Moment	Wt.	Moment

IT IS THE RESPONSIBILITY OF THE OWNER AND PILOT TO ASCERTAIN THAT THE AIRPLANE ALWAYS REMAINS WITHIN THE ALLOWABLE WEIGHT VS. CENTER OF GRAVITY ENVELOPE WHILE IN FLIGHT.