1. This trip involves a large load for the Skyhawk. Can you carry full tanks, all of the people and baggage, and still maintain compliance with the aircraft weight and balance requirements for the entirety of the first flight?

   A. Yes, the aircraft will be within limits for weight and balance
   B. No, the aircraft will be under the max gross weight but out of balance
   C. No, the aircraft will be over weight but balanced correctly
   D. No, the aircraft will be over weight and out of balance

A is the correct answer. See weight and balance table at the end.

2. After making sure that you meet weight and balance requirements, you top off the tanks. With an average fuel burn of 8.1 gallons per hour, how long will your 40 gallon capacity keep you aloft?

   A. 4 hours 56 minutes
   B. 5 hours
   C. 5 hours 4 minutes
   D. 5 hours 8 minutes

A is correct, 4 hours and 56 minutes

3. As you plan your flight, you look at the Airport Facilities Directory and see lots of symbols in the PGV airport diagram. What does the black circle with the A5 in the upper center of the diagram mean?

   A. PGV has a pilot-controlled ALSF-2 lighting system
   B. The airport fire department meets Class 5 standards and is attended at all times
   C. The largest aircraft allowed to land without prior approval is category A5
   D. None of the above

D is correct. The symbol indicates that PGV has a pilot-controlled MALSR and RAIL lighting system.

4. Is the pilot qualified per the recent flight experience requirements of Part 91?

   A. No, the pilot does not have a current flight review
   B. No, the pilot does not have recent landing experience
   C. Yes, the pilot meets the requirements for carriage of passengers
   D. Yes, but the pilot is only current for one more day

C is correct. The pilot meets the requirements with a current flight review and more than 3 category and class landings in the past 90 days.

5. Does the pilot's medical certificate meet the requirements for him to serve as PIC on this flight?
   A. Yes, only if the pilot completes the flight without any passengers on board
   B. Yes, the pilot meets the requirements
   C. Yes, no medical certificate is required for this flight
   D. No, this medical certificate is no longer current

B. is correct. The pilot has a medical within the past 5 years as is required by the regulations.

6. You get a little bit of a late start, departing at 1800Z. What is your short field takeoff distance ground roll on runway 8?

   A. 960 feet
   B. 995 feet
   C. 1016 feet
   D. 1065 feet

1016 is the ground roll interpolated for temperature. Correct for the headwind to get 960 feet, answer A.

7. What time should you reach RMACK intersection?

   A. 1815Z
   B. 1820Z
   C. 1825Z
   D. 1830Z

Note that the temperature is ISA+18 on the ground, +13 at 6000 feet, and +13 at 9000 feet. This suggests that the most accurate calculation will come from an ISA+13 correction, though other temperature corrections will yield answers that are pretty close. The climb chart says to correct 10% for each 10 degrees above standard, so increase the climb fuel burn and time by 13%. Use the time and ground speed to calculate distance travelled. See the chart at the end for the rest. Answer C is correct.

8. While enroute, you are considering possible alternative landing sites. What is the approximate length of the longest runway at KEDE?

   A. 2000 Feet
   B. 6000 Feet
   C. This information is only available in the AFD
   D. None of the Above

B is correct. See sectional legend.

9. Which of the following statements about the pilot report in your weather package is true?

    A. The report time was 11:02 local time
    B. Winds over EWN are 360@35 knots
    C. The temperature at 6000 feet is plus 28 degrees Celsius
    D. OCW is the nearest weather reporting station to the reported conditions

D is correct. See AIM 7-1-20.

10. After you pass RMACK you look on your right and see Phelps Lake. You notice that the sectional chart seems to depict the lake as a slightly darker color of blue when compared to the Atlantic Ocean. Which of the following statements is true?

    A. Any apparent difference in color is a result of the printing process and should be disregarded.
    B. Phelps Lake is considered inland water, which is depicted with a darker blue
    C. Phelps Lake has fresh water and is thus depicted with a darker blue
    D. The lake is available for seaplane operations

According to the *Aeronautical Chart User's Guide*, in the hydrography section of the topographic information chapter, answer B is correct.

11. How much fuel did you burn to get from engine start to the top of climb?

    A. 2.4 gallons
    B. 2.7 gallons
    C. 3.3 gallons
    D. 4.8 gallons

Use the climb chart to find that the ISA climb to 5500 feet is 1.95 gallons. Add 13% to get 2.2 gallons, then add 1.1 gallons for the taxi and takeoff per the chart notes. Answer C is correct.

12. When you fly your own aircraft, you strive to minimize the cost of flying. Since this is an hourly rental with the fuel included, you are flying as fast as possible instead. Just for comparison purposes, how much fuel would you save on the RMACK-TOD leg if you flew at the minimum power setting on the cruise chart instead?

    A. None, the fuel burn would be the same
    B. 0.4 gallons
    C. 0.6 gallons
    D. 5 pounds

The minimum setting for 6000 feet is 47 BHP, and the fuel burn is 5.5 GPH. Since the speed has reduced to 87 knots TAS (84 knots ground speed), and the distance from RMACK to the top of descent is 44 nautical miles, the time would be 31 minutes. 31 minutes at 5.5 GPH is 2.8 Gallons. At the higher power setting, you burned 3.2 Gallons, for a savings of .4 gallons, or 2.4 pounds.

13. As you approach KMQI, you start to think about planning your descent. If you are going to maintain 800 FPM in your descent from 5500 feet to a 1000 AGL pattern altitude, at what distance from KMQI should you start your descent?

    A. 7.1 nautical miles
    B. 8.6 nautical miles
    C. 13.1 nautical miles
    D. 15.2 nautical miles

5500-1013=4487 feet. Groundspeed at 140 knots TAS is 137kts before the turn, and 143kts after since the distance after the turn is 6 miles, it will take 2.5 minutes, which will equate to 2000 feet. This leaves 2487 feet of descent (3:06) at the GS of 137 knots, which will require 7.1 nautical miles, or answer A.

14. As you are passing over Columbia, you hear your younger nephew say that he doesn't really see why the Wright Brothers were really all that important. Since you feel as though he has insulted your honor, you spend several minutes explaining to him about how the Wrights were able to bring together all of the technology to make airplanes fly and so forth. Before you know it, you have passed your planned TOD because you were busy talking. Rather than admit defeat, you play it cool and start your descent anyway. What descent rate is it going to take to make it to the pattern altitude over FFA if you are 3 minutes out?

    A. 1300 feet per minute
    B. 1400 feet per minute
    C. 1500 feet per minute
    D. 1600 feet per minute

4487 feet in 3 minutes is 1495 feet per minute, answer C.

15. The MQI NDB is a MH Class Transmitter. What is the service volume of the MQI NDB?

    A. 15 NM
    B. 25 NM
    C. 50 NM
    D. 75 NM

See Aim 1-1-8. Answer B is correct

16. As you approach the FFA traffic pattern, you prepare to announce your conditions on the CTAF. Which of the following radio calls are correct based on the communications guidelines in the AIM?

    A. "First Flight Traffic, Skyhawk eight oh five tango bravo is entering the left downwind for Runway two, First Flight"
    B. "Traffic in the area, please advise"
    C. First Flight Traffic, Skyhawk eight zero five tango bravo is 20 miles out, inbound for landing, First Flight."
    D. None of the Above

Answer D is correct. A is incorrect because the zero is not pronounced "oh." Answer B is incorrect per Aim 4-1-9(g): Pilots stating, "Traffic in the area, please advise" is not a recognized Self-Announce Position and/or Intention phrase and should not be used under any condition. Answer C is incorrect because 4-1-9(c) says that calls should start at 10 miles out, not 20.

17. After arriving at FFA, how much fuel should you have on board?

    A. 20 gallons
    B. 24 gallons
    C. 31 gallons
    D. 36 gallons

See chart- 40-8.6=31.4 gallons, answer C

18. What is your landing distance over a 50-foot obstacle at FFA in the current conditions?

    A. 1310 feet
    B. 1325 feet
    C. 1340 feet
    D. 1360 feet

The chart distance for sea level at 30 degrees C is 1325. Since the winds are 100@4 and the METAR reports winds in a true direction, there is no headwind component. Answer B is correct.

19. After you spend some time visiting the memorial and learning about the Wright Brothers, you prepare to fly home. Are restrooms available the FFA airport?
    A. No, you should use the restrooms at the monument
    B. Yes, restrooms are available
    C. Restroom information is not included in the AFD

D. Restrooms are only available when the tower is open

According to the AFD entry, yes, restrooms are available. B is correct.

20. You consider stopping at MQI for fuel, so you look at the AFD. Based on the information there, which of the following is true?

   A. MQI has self-serve 100LL available
   B. MQI does not have a seaplane ramp
   C. MQI has an operating control tower
   D. Answers A and B are correct

A is correct, since MQI does have a seaplane ramp and does not have a tower.

You decide to press on without getting fuel at MQI. Follow the same route of flight, use the same winds, cruise at 6500 feet, and base your cruise performance on the 6000 foot altitude performance numbers. This time, descend at 800 feet per minute.

21. If you actually depart FFA at 2045Z. At what time will you pass over the RMACK intersection on your way home?

   A. 2116Z
   B. 2130Z
   C. 2146Z
   D. 2200Z

See Chart at the end. Answer A is correct.

22. What was your ground speed on the earlier leg from RMACK to the top of descent before MQI?

   A. 114 miles per hour
   B. 126 miles per hour
   C. 131 miles per hour
   D. 148 miles per hour

114 knots = 131 miles per hour, or answer C is correct.

23. How much fuel should you have upon arrival in PGV, assuming that you left PGV with 40 gallons?

   A. 19.0 Gallons
   B. 23.1 Gallons
   C. 28.8 Gallons
   D. 29.7 Gallons

40-8.6-8.3=23.1, Answer B

24. If you are at a pressure altitude of 6200 feet and the OAT is 13 degrees C, what is the Density Altitude?
   A. 6800 feet
   B. 7500 feet
   C. 8000 feet
   D. 8500 feet

Answer B is correct, 7500 feet.

25. If the aircraft payload is loaded as described in the supplemental data, what is your landing weight in PGV?
   A. 2057 pounds
   B. 2121 pounds
   C. 2200 pounds
   D. 2282 pounds

2282 is the correct weight. See charts at the end.

26. While enroute to RMACK from MQI, you tune in the Wright Brothers VOR to cross-check your dead reckoning and pilotage. What will you hear if you listen to the audio channel over the VOR frequency?
   A. The morse code letters RBX
   B. A recorded voice transmission about hazardous conditions
   C. Answers B and A
   D. None of the above

Answer A is correct. RBX is not equipped for HIWAS transmissions.

27. You center the needle on your OBS and find that it shows you on the 285 radial at 32 nautical miles. How many miles off course have you flown?
   A. 1.9 nm
   B. 2.0 nm
   C. 2.1 nm
   D. 2.2 nm

Use a flight computer to calculate off-course correction based on 4 degrees of correction and 32 miles from the station. 2.1 nm, answer C is correct.

28. Refer to the previous question. If your CDI is correct, how many degrees should you turn to the left to still arrive over RMACK?
   A. 2.4 degrees
   B. 13.7 degrees
   C. 15.0 degrees
   D. 10.0 degrees

Since you were 32 miles from MQI the first time, and there are 45 miles between MQI and RMACK, you still have 13 miles to go. Use your flight computer to find that it will take an additional 9.7 degrees to intercept, for a total of 13.7 degrees, answer B.

29. You encounter a short, single occurrence of turbulence, which shakes your CDI indicator a little. It turns out that you were actually right on course, since the needle now centers up on the airway bearing. The turbulence encounter caused a change in altitude/attitude, but you were able to maintain positive control of the aircraft. How should you describe this turbulence in a report to ATC?
        A. Light Chop
        B. Medium Turbulence
        C. Moderate Chop
        D. Moderate Turbulence

Answer D is correct per AIM 7-1-23

30. To maintain a descent rate of 800 feet per minute and arrive over PGV at 1000 feet AGL, when should you start your descent?
        A. 11 nautical miles past RMACK
        B. 16 nautical miles before PGV
        C. 10 minutes from PGV
        D. 15 minutes past RMACK

6500ft-1026=5474 feet to lose. At 800 feet per minute, this will be 6.84 minutes. The GS is 142 knots, which will cover 16.2nm. The TOD point is 25.8 miles past RMACK, 16.2 miles before PGV, 13:20 past RMACK, and 6:50 before PGV. Answer B is correct

31. True or False: you should see REIL lights on runway 2 in PGV.
        A. True
        B. False

B, False. While runway 2 is equipped with REILs, you should not see them since they are out of service per the NOTAM.

32. At what time will you arrive back in PGV according to your planning?
        A. 2135Z
        B. 1830 EDT
        C. 1700 EDT
        D. 2235Z

You should arrive at 2135Z, which is 1735 EDT.

33. Which of the following should be your most pressing concern if you don't make it back to PGV until 10:00pm EDT?
        A. The runway lights at PGV are out of service

B. The FBO will be closed at PGV
C. You aren't night current
D. There are no pressing concerns.

Answer C is correct. You only have one night landing in the past 90 days.

34. What kind of maintenance facilities should be available in PGV?
    A. Minor Airframe and Minor Powerplant Repairs
    B. Major Airframe and Major Powerplant Repairs
    C. Major Airframe and Minor Powerplant Repairs
    D. Minor Airframe and Major Powerplant Repairs

Code S4 in the AFD indicates that major airframe and powerplant repairs are available, B.

35. How far were you from MQI when you reached your cruising altitude on the trip home?
    A. 11.7 nautical miles
    B. 15.4 nautical miles
    C. 27 kilometers
    D. 15.1 kilometers

6 miles from FFA to MQI at a GS of 72 knots will take 5 minutes. The total climb time is based on 12.5 minutes corrected to 14:07 for the warmer than standard temperature. Subtract 5 minutes for 9:07 of climbing past MQI. At a GS of 77 knots, this will take 11.7 nautical miles, or 21.6 kilometers. Answer A is correct.

36. Based on the weather forecast, which is the most likely phenomenon that you will encounter as you arrive at PGV?
    A. Overcast skies at 25000 feet
    B. Visibility of 5 miles in mist
    C. Cumulonimbus Clouds with bases at 4000 feet
    D. Clear skies and unrestricted visibility

Answer C is correct, per the PGV TAF FM151800… … SCT040CB

37. If the clouds became more frequent on your MQI to RMACK leg and you decided to get lower to avoid them, what is the tallest obstacle that you could possibly encounter?
    A. The tower with an MSL height of 706 feet
    B. The tower with an MSL height of 1643 feet
    C. The tower with an AGL height of 1721 feet
    D. None of the Above

Per the sectional, note that there is a manmade obstruction with a height of 1643 AGL, and 1649 MSL. Answer D is correct.

38. Using the load information from the Supplemental data, what is the zero fuel CG for today's flights?

A. 41.2 inches
B. 42.8 inches
C. 43.3 inches
D. Not enough information is given

Use the ZF weight of 2150 pounds and the moment of 93100 to calculate a CG of 43.3 inches, answer C.

39. If your rental rate is 87.50 per hour, and your total rental time was your flight time plus 10 minutes total for the two traffic patterns and taxi time, how much do you owe?

A. 124.58
B. 148.75
C. 163.33
D. 195.24

The time for each leg was 51 minutes. Those two legs plus 10 minutes equal 1:52, so the total bill should be 163.33, answer C

40. Upon arrival in PGV, your brother says that he had a great time. As you are closing out the flight with the FBO, he offers to pay the rental fee for you. You say:

A. Thanks! I can't argue with that!
B. Thanks, but I'm actually not allowed to let you do that.
C. Instead, let's split the fee in half.
D. Answer B and C

Answer D is the best answer to not violate 14CFR Part 91. As a private pilot, you are required to pay your *pro rata* share, which eliminates option A. Since your pro-rated share is 25% of the total cost, you may pay any amount over 25% of the bill.

Flight Plan:

Leg	Distance	TC	VAR	MC	Wind	WCA	MH	TAS	GS	Min:sec	Time	Fuel Rate	Fuel Burn
PGV Takeoff	Xxxxx	xxxxx	10w	xxxxx	090/5	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx	1800Z	xxxxx	xxxxx
PGV-TOC	15	63	10w	73	140/6	4	77	75	72	11:18	1811Z	xxxxx	3.3
TOC-RMACK	27	63	10w	73	170/7	3	76	117	118	13:47	1825Z	8.4	1.9
RMACK-TOD	43.8	92	10w	102	170/7	3	105	117	114	23:03	1848Z	8.4	3.2
TOD-MQI	1.2	92	10w	102	170/7	2	105	140	137	0:26	1848Z	4	0
MQI-FFA	6	11	10w	21	140/6	2	23	140	143	2:34	1851Z	4	0.2
										0:51:08			**8.6**
FFA Takeoff	Xxxxx	xxxxx	10w	xxxxx	100/4	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx	2045Z	xxxxx	xxxxx
FFA-MQI	6	191	10w	201	140/6	-4	197	75	72	5:00	2050z	xxxxx	xxxxx
MQI-TOC	11.7	272	10w	282	170/7	-5	288	75	77	9:07	2059z	xxxxx	3.8
TOC-RMACK	32.6	272	10w	282	170/7	-3	279	117	119	16:26	2116Z	8.4	2.3
RMACK-TOD	25.8	243	10w	253	170/7	-3	250	117	116	13:20	2127Z	8.4	1.9
TOD-PGV	16.2	243	10w	253	140/6	-2	251	140	142	6:50	2135Z	4	0.5
										0:51:23			**8.5**

Weight and Balance:

		Moment/1000	Weight
	Empty Aircraft	57.5	1525
	Front Seat	13	350
	Back Seat	16.4	225
	Baggage	6.2	50
	Zero Fuel	**93.1**	**2150**
PGV	Ramp Fuel	11.5	240
PGV	Taxi Fuel	-0.3	-6.6
PGV	**Takeoff Aircraft**	**104.3**	**2383.4**
PGV to FFA	Fuel Burn	-2.4	-45
at FFA	**Landing Aircraft**	**101.9**	**2338.4**
FFA	Taxi Fuel	-0.3	-6.6
FFA	**Takeoff Aircraft**	**101.6**	**2331.8**
FFA To PGV	Fuel burn	-2.5	-49.8
At PGV	**Landing Aircraft**	**99.1**	**2282**