



CFI Pre-Course Exam

Student Name: _____

Start Date: _____ Training Center _____

Area of Operation I: Fundamentals of Instruction, Tasks A – G

1. Define learning. (REF: FAA-H-8083-9A / CHAP 2)

2. List the six laws of learning and an example of each. (REF: FAA-H-8083-9A / CHAP 2)
 - a.
 - b.
 - c.
 - d.
 - e.
 - f.

3. What are three ways a student acquires knowledge? (REF: FAA-H-8083-9A / CHAP 2)
 - a.
 - b.
 - c.

4. List four reasons people forget. (REF: FAA-H-8083-9A / CHAP 2)
 - a.
 - b.
 - c.
 - d.



CFI Pre-Course Exam

Define positive and negative transfer of learning. (REF: FAA-H-8083-9A / CHAP 2)

5. List three ways a CFI can enhance retention of learning. (REF: FAA-H-8083-9A / CHAP 2)

a.

b.

c.

6. List Maslow's Hierarchy of Needs. (REF: FAA-H-8083-9A / CHAP 1)

a.

b.

c.

d.

e.

7. Explain three types of defense mechanisms. (REF: FAA-H-8083-9A / CHAP 1)

a.

b.

c.

8. Explain three different ways a CFI keeps a student motivated. (REF: FAA-H-8083-9A / CHAP 1 & 2)

a.

b.

c.



CFI Pre-Course Exam

9. What are the three elements of effective communications? Give a brief description of each. (REF: FAA-H-8083-9A / CHAP 3)
 - a.
 - b.
 - c.
11. Explain two barriers to effective communication. (REF: FAA-H-8083-9A / CHAP 3)
 - a.
 - b.
12. What are the four steps in the teaching process? (REF: FAA-H-8083-9A / CHAP 4)
 - a.
 - b.
 - c.
 - d.
13. What is the primary use for the lecture method of teaching? (REF: FAA-H-8083-9A / CHAP 4)
14. Define “Guided Discussion” and explain three different kinds of questions that can be used in a guided discussion. (REF: FAA-H-8083-9A / CHAP 4)
 - a.
 - b.
 - c.



CFI Pre-Course Exam

15. What are the five essential phases of the demonstration performance method of teaching? Give an example of each. (REF: FAA-H-8083-9A / CHAP 4)
 - a.
 - b.
 - c.
 - d.
 - e.

16. Discuss three different characteristics of an effective critique. (REF: FAA-H-8083-9A / CHAP 5)
 - a.
 - b.
 - c.

17. List three desirable effects of oral quizzing. (REF: FAA-H-8083-9A / CHAP 5)
 - a.
 - b.
 - c.

18. What is the difference between "validity" & "reliability" on a written test? (REF: FAA-H-8083-9A / CHAP 5)

19. Why is the PTS considered a "Performance Test"? (REF: FAA-H-8083-9A / CHAP 7)

20. List three major considerations and qualifications included in CFI Professionalism. (REF: FAA-H-8083-9A / CHAP 7)
 - a.
 - b.
 - c.



CFI Pre-Course Exam

21. List three ways a CFI helps a student learn. (REF: FAA-H-8083-9A / CHAP 7)
 - a.
 - b.
 - c.
22. Describe three "abnormal" reactions to stress. (REF: FAA-H-8083-9A / CHAP 1)
 - a.
 - b.
 - c.
23. How does a CFI mitigate a student's anxiety? (REF: FAA-H-8083-9A / CHAP 8)
24. What is meant by CFI Student Pilot supervision and surveillance? (REF: FAA-H-8083-9A / CHAP 5)
25. Give an example of five different types of CFI endorsement that are **not** for a certificate or rating. (REF: FAA-H-8083-9A / CHAP 7 & FAR Part 61.31)
 - a.
 - b.
 - c.
 - d.
 - e.
26. What are the minimum ground and flight requirements for a flight review? (REF: FAA-H-8083-91 CHAP 8 & FAR Part 61.56)



CFI Pre-Course Exam

27. Identify two different ways an airman can receive credit for a flight review. (REF: FAR Part 61.56)
 - a.
 - b.
28. What is meant by the "Integrated Method Flight of Instruction"? (REF: FAA-H-8083-9A / CHAP 8)
29. What is a training syllabus? (REF: FAA-H-8083-9A / CHAP 6)
30. Describe the basic format and content of a training syllabus. (REF: FAA-H-8083-9A / CHAP 6)
31. Complete a pre-flight maneuver lesson plan for VMC Demo and Steep Turns. Bring the completed lesson plans to class. (REF: FAA-H-8083-9A / CHAP 6 & Airplane Flying Handbook Appropriate Chapters)

Area of Operation II: Technical Subject Areas

A. Aeromedical Factors

32. What are the procedures for obtaining a medical certificate with a *possible* disqualifying factor? (REF: FAA-H-8083-25A & FAR Part 67.409)
33. What is a "SODA" as per FAR Part 67? (REF: FAR Part 67.401)



CFI Pre-Course Exam

34. Define hypoxia and list the four major hypoxia groups. (REF: FAA-H-8083-25A / CHAP 16 & AIM 8-1-2)

Hypoxia –

- a.
- b.
- c.
- d.

35. Discuss the various causes of spatial disorientation. (REF: FAA-H-8083-25A / CHAP 16 & AIM 8-1-5b)

36. What are the rules for SCUBA diving and flying? Why do they exist? (FAA-H-8083-25 / A CHAP 16 & AIM 8-1-2d)

B. Visual Scanning and Collision Avoidance

37. Identify three visual illusions that affect flight. (REF: FAA-H-8083-25A / CHAP 16 & AIM 8-1-5)

- a.
- b.
- c.

38. Discuss proper clearing procedures for low and high wing airplanes. (REF: AIM 4-4-14)

C. Principles of Flight

39. Define: (REF: FAA-H-8083-25A / CHAP 4)

Lift -

Weight –

Thrust-

Drag –



CFI Pre-Course Exam

40. What causes and airplane to turn?
41. What forces increase while maintaining altitude during a turn?
- a.
 - b.
42. Define the following: (REF: FAA-H-8083-25A / CHAP 4)
- Stability –
- Controllability –
- Maneuverability –
43. Discuss four left turning tendencies. (REF: FAA-H-8083-25A / CHAP 4)
- a.
 - b.
 - c.
 - d.
44. Define: (REF: FAA-H-8083-25A / CHAP 4)
- Load Factor –
- V_A -
45. How are wing tip vortices generated? (REF: FAA-H-8083-25A / CHAP 4)



CFI Pre-Course Exam

D. Airplane Flight Controls: Aileron, Rudder, & Elevator

46. For the following flight control surfaces, describe the purpose, location, attachment, control system, movement in flight, and the effect on the airplane. (REF: FAA-H-8083-25A / CHAP 5 & Piper Seminole PIM)

Aileron –

Rudder –

Elevator -

47. Describe four types of flaps. (REF: FAA-H-8083-25A / CHAP 5)

- a.
- b.
- c.
- d.

48. What type of flap is most efficient? (REF: FAA-H-8083-25A / CHAP 5)

49. What type of flaps does a Piper Seminole have? (REF: Piper Seminole PIM)

50. Describe the trim devices on a Piper Seminole. (REF: FAA-H-8083-25A / CHAP 5 & Piper Seminole PIM)

E. Airplane Weight and Balance

51. What is the basic formula for weight and balance calculations? (REF: FAA-H-8083-25A / CHAP 9)

52. Define the following (REF: FAA-H-8083-25A / CHAP 9)

Arm (moment arm) –

Moment –

Datum –



CFI Pre-Course Exam

53. Where is the datum on the Piper Seminole? (REF: Piper Seminole PIM)
54. Which way does the CG move during flight, and why does it change? Be able to demonstrate. (REF: FAA-H-8083-25A / CHAP 9 & Piper Seminole PIM / CHAP 6)

F. Navigation and Flight Planning

55. Define the following: (REF: FAA-H-8083-25A / CHAP 15)

True Course -

True Heading -

Magnetic Course -

Magnetic Heading -

Compass Heading -

56. When determining VFR cruising altitude, which of the following is used? (REF: FAA-H-8083-25A / CHAP 15 & FAR 91.159)
- true course
 - true heading
 - magnetic course
 - magnetic heading
 - compass heading
57. Using an E6B, compute the following: (REF: FAA-H-8083-25A / CHAP 15)
- 90 nautical miles equals _____ statute miles and _____ kilometers
 - What is your ground speed if you fly 120NM in 50 minutes?
 - What is your ground speed if you fly 80 NM in 35 minutes?
 - How long will it take to travel 333NM at 174 KIAS?
 - How far will you travel in 2 hours 15 minutes at 135KIAS?
 - How many gallons per hour (GPH) are you burning if you've consumed 30 gallons in 111 minutes?
 - Calculate true airspeed (TAS) given: 125Kias, -15 degrees Celsius, and pressure altitude 8000'
 - Convert 35 degrees Celsius to Fahrenheit.



CFI Pre-Course Exam

58. Solve the following for the given conditions: Wind 160 degrees at 30kts, TAS 120 KIAS, and true course (TC) 090.

True Heading =
Groundspeed =

NOTE: During CFI School, you will be required to perform cross-country calculations using a local sectional and an E6B plotter.

59. Describe the elements or objectives of an “in-flight” diversion according to the Commercial PTS. (REF: FAA-H-8083-25A / CHAP 15 & Commercial PTS, AOA VII – Task C)
60. Describe the three different “types” of flight plans a pilot can file. (REF: AIM 5-1-4 – 5-1-7)
- a.
 - b.
 - c.

G. Night Operations

61. Describe three types of night visual illusions. (REF: FAA-H-8083-25A / CHAP 16)
- a.
 - b.
 - c.
62. What equipment is required for VFR night flight? [REF: FAR 91.205(c)]
- VFR day PLUS -
63. What is the definition of “Night”? (REF: FAR PART 1)
64. What is the requirement to maintain night currency to carry passengers in Category, Class, and Type? (REF: FAR 61.57)



CFI Pre-Course Exam

H. High Altitude Operations

65. When is a “high altitude” endorsement is required? [REF: FAR Part 61.31(g)]
66. What the training required for a high altitude endorsement? [REF: FAR Part 61.31(g)]
67. Describe the rules for the use of oxygen under FAR Part 91. (REF: FAR Part 91.211)
- a. Non-Pressurized Aircraft

 - b. Pressurized Cabin Aircraft
68. Describe three different types of oxygen systems. (REF: FAA-H-8083-25A / CHAP 6)
- a.
 - b.
 - c.
69. What is the source of pressurization in a typical piston powered airplane? (REF: FAA-H-8083-25A / CHAP 6)
70. What is the difference between rapid and explosive decompression? (REF: FAA-H-8083-25A / CHAP 6)

I. Federal Aviation Regulations and Publications

71. What information is contained in the following FAR Parts? (REF: FAR Parts, as appropriate: www.faa.gov/regulations)

1 –

23 –

43-



CFI Pre-Course Exam

61 –

67 –

91 –

119-

72. According to NTSB Part 830, what constitutes an “Accident”? (REF: NTSB Part 830.2)

73. What is a Notice of Proposed Rulemaking [NPRM]? (REF: FAA Part 11.5; www.faa.gov “regulations” / search)

74. What is an Airworthiness Directive [AD]? (REF: FAA-H-8083-25A / CHAP 1 & FAR PART 1)

75. How can a CFI ensure that he/she is using the current PTS? (REF: www.faa.gov search “PTS”)

J. National Airspace System

76. Describe the dimensions, cloud clearance, and visibility requirements for the following airspaces (REF: FAA-H-8083-25A/CHAP 14 & AIM 3-1 thru 3-3)

A –

B –

C –

D –

E –

G –



CFI Pre-Course Exam

77. Describe five types of Special Use Airspace (SUA). (REF: FAA H-8083-25A / CHAP 14 & AIM 3-4)
- a.
 - b.
 - c.
 - d.
 - e.
78. What type of flight plan is needed to cross the ADIZ? (REF: AIM 5-6-1)

K. Navigation Aids & Radar Survives

79. What is the difference between a VOR, VOR/DME, & a VORTAC? (REF: FAA-H-8083-25A / CHAP 15 & AIM 1-1-3, 1-1-6)
80. How does a DME work? (REF: AIM 1-1-7)
81. In general terms, how does the GPS System work? (REF: FAA-H-8083-25A / CHAP 15 & AIM 1-1-19)
82. Lost Procedures – If a pilot becomes lost and can't see a city or town, what should he or she do? (REF: FAA-H-8083-25A / CHAP 15)



CFI Pre-Course Exam

L. Logbook Entries and Certificate Endorsements

83. What are the specific requirements for logging both flight and ground time in a student's logbook? What is the specific reference? (REF: FAR Part 61.51)
84. List the 10 "Student Pilot Endorsements" listed in appendix 1 of AC 61-65E. Include their appropriate regulation. (REF: AC 61-65E – Appendix 1)
- a. *example*: Presolo Aeronautical knowledge: section 61.87(b)
 - b.
 - c.
 - d.
 - e.
 - f.
 - g.
 - h.
 - i.
 - j.
85. What are the aeronautical experience requirements for the private pilot airplane single engine land? (REF: FAR Part 61.109)
86. List 2 endorsements that a CFI applicant must have that are not required for other certificates or ratings? (REF: FAR Part 61.183, AC 61-65E - Appendix 1)
- a.
 - b.



CFI Pre-Course Exam

87. List two other endorsements a CFI applicant must have in addition to the 2 “unique” endorsements listed above. (REF: FAR Part 61.183, AC 61-65E - Appendix 1)
 - a.
 - b.
88. What are the prerequisites for a gold seal flight instructor certificate? (REF: AC 61-65E)
89. How long is a gold seal flight instructor certificate award good for? (REF: AC 61-65E)
90. List five logbook entries or endorsements an instrument instructor (CFII) can give that a CFI cannot. (REF: FAR Part 61, AC 61-65E, and Appendix 1)
 - a. 61.195(c) -
 - b. 61.57(d)(iv) -
 - c. 61.153(g), 61.69 -
 - d. 61.65(a)(3) thru (6) -
 - e. 61.187(b)(7) -
91. What training and endorsements may a person who holds an advanced ground instructor certificate (AGI) with an instrument ground instructor rating (IGI) give? (REF: FAR Part 61.215)
92. List 5 ways a CFI may *renew* his/her certificate. (REF: FAR Part 61.197, AC 61-65)
 - a.
 - b.
 - c.
 - d.
 - e.



CFI Pre-Course Exam

93. How does CFI renewal differ from *reinstatement*? (REF: FAR Part 61.199, AC 61-65)
94. List two ratings that may be placed on a CFI *airplane* certificate. [REF: FAR Part 61.187(b)(1)&(2)]
- a.
 - b.
95. You have just been awarded your initial CFI certificate with an airplane single-engine class rating. What certificate or rating would you need before you could provide instruction in a single-engine seaplane? [REF: 61.191(a) & 61.183(c)]
96. What kind of records must a CFI keep, and for how long? (REF: FAR Part 61.189)
97. Provide two privileges and two limitations of a CFI. (REF: FAR Part 61.193 & FAR Part 61.195)
- Privileges*
- a.
 - b.
- Limitations*
- a.
 - b.
98. You earned your flight instructor certificate in a Piper Seminole. A student approaches you to provide training toward their commercial certificate in their personal Beechcraft Baron, an airplane you have no previous experience in. Can you do it? Why or why not? [REF: FAR Part 61.195(f)]



CFI Pre-Course Exam

99. List six **pilot** certificates and their expirations [your answer should NOT include CFI]. (REF: FAR Part 61)
- a.
 - b.
 - c.
 - d.
 - e.

Hint: look at the Part 61 Table of contents, subpart C - G and J.

100. What must an applicant do before they can re-take a failed knowledge exam? (REF: FAR Part 61.49)
101. What must an applicant do before they can re-take a practical test that they failed during the flight portion of the test? (REF: FAR Part 61.49)
102. What must an applicant do before they can re-take a practical test that they failed during the oral portion of the test? (REF: FAR Part 61.49)
103. Joe, a CFI applicant, failed his CFI practical test because he entered an inadvertent spin? What requirements must be fulfilled before he can re-take the CFI practical test. (REF: FAR Part 61.49)
104. What type of Medical Certificate is required for any practical test? (REF: FAR Part 61.23)

Hint: There is a difference between taking a practical test for a certificate and exercising the privileges of that certificate.

105. Can a CFI teach and charge money if that CFI loses their Medical Certificate? [REF: FAR Part 61.23(b)]



CFI Pre-Course Exam

Area of Operation III: Preflight Preparation

A. Certificates & Documents

106. What are the aeronautical experience requirements for a commercial pilot ASEL? (REF: FAR Part 61.129)

107. List at least 3 limitations that pertain to student pilot that don't apply to private pilots? (REF: FAR Part 61.89)

a.

b.

c.

Hint: Part 61 Table of Contents – Subparts C & E – look for “limitations”

108. Can a student pilot fly over a cloud layer on a cross country flight in VMC conditions where visual contact with the ground is lost for a few minutes, but the horizon can readily be determined by the cloud layer? (REF: FAR Part 61.89)

109. List the three classes of medical certificates and their duration. (REF: FAR Part 61.23, http://www.faa.gov/licenses_certificates/medical_certification/faq/response4/)

110. Do the medical certificate durations listed in FAR 61.23 match those listed on the FAA's website?

111. Joe, a commercial pilot, received a 1st class medical 13 calendar months ago. Can he legally conduct training flights as a flight instructor? (REF: 61.23, http://www.faa.gov/licenses_certificates/medical_certification/faq/response4/)

112. Assuming Joe is 30 years old – using a fresh 1st class medical, how many months can he exercise the privileges under the following types of operations:

(REF: 61.23, http://www.faa.gov/licenses_certificates/medical_certification/faq/response4/)

a. Airline first officer? –

b. Flight instructor?–

c. Private pilot? -



CFI Pre-Course Exam

113. List recency requirements for carrying passengers during the day. (REF: FAR Part 61.57)

114. List recency requirements for carrying passengers at night. (REF: FAR Part 61.57)

115. What are the only required pilot logbook entries? [REF: FAR Part 61.51(a)(1&2)]

a.

b.

Hint: For 61.51(a)(2), refer to 61.57(a-e)

B. Weather Information

116. What is the primary source for a preflight weather brief under FAR Part 91 operations? (REF: AIM 7-1-4)

117. List at least 3 other sources of weather information available to pilots. [REF: AIM 7-1-2(c)(1-3)]

Hint: Use the AIM Table of Contents to quickly scan for information within the AIM.

118. What are the different types of weather briefings available through AFSS/FSS? [REF: AIM 7-1-4 (b-f)]

a.

b.

c.

d.

119. What are NOTAMS? (REF: FAA-H-8083-25A / CHAP 1 & AIM CHAP 5)

120. What is EFAS? (REF:FAA-H-8083 / CHAP 12 & AIM CHAP 7)

121. What frequency is EFAS available? (REF:FAA-H-8083 / CHAP 12 & AIM CHAP 7)

122. What altitude is EFAS available? (REF:FAA-H-8083 / CHAP 12 & AIM CHAP 7)



CFI Pre-Course Exam

123. What hours are EFAS available? (REF:FAA-H-8083 / CHAP 12 & AIM CHAP 7)
124. What does HIWAS stand for? (REF: FAA-H-8083-25A / CHAP 12 & AIM CHAP 7-1-10)
125. List at least five weather products available on HIWAS. (REF: FAA-H-8083-25A / CHAP 12 & AIM CHAP 7-1-10)
- a.
 - b.
 - c.
 - d.
 - e.
126. Decode this PIREP. (REF: FAA-H-8083-25A / CHAP 12 & AIM CHAP 7-1-20)
- KCMH UA /OV APE 230010/TM 1516/FL085/TP BE20/SK BKN065/WX FV03SM HZ FU/TA 20/TB LGT
127. What is a UUA? (REF: FAA-H-8083-25A / CHAP 12 & AIM CHAP 7-1-20)
128. What is low level wind shear (LLWS)? (REF: FAA-H-8083-25A / CHAP 11 & AIM CHAP 7-1-26)
129. Define METAR. (REF: REF: FAA-H-8083-25A / CHAP 12)
130. Decode the following METAR. (REF: REF: FAA-H-8083-25A / CHAP 12)
- METAR KGGG 161753Z AUTO 14021G26 3/4SM +TSRA BR BKN008 OVC012CB 18/17 A2970 RMK PRESFR

NOTE: The CFI Candidate should already be familiar with general weather theory, e.g. lows/highs, cold fronts, warm fronts, atmospheric stability etc. During ground school, the candidate will be required to **decode: METAR, METAF, PIREP, Winds, and Temperature aloft. Plain language weather is not permitted during the conduct or the CFI oral exam.*

CFI Pre-Course Exam

C. Airworthiness Requirements

131. What is the required equipment for aircraft to operate in VFR Day conditions? (REF: FAR PART 91.205(b))

132. What is the required equipment for aircraft to operate in VFR Night conditions? (REF: FAR PART 91.205(c))

133. What is the required equipment for aircraft to operate in IFR conditions? (REF: FAR PART 91.205(d))

134. What tests and inspections must a flight school aircraft have to maintain it in an airworthy condition? (REF: FAA-H-8083-25A / CHAP 8 & FAR Part 91.409, [ATP Online Training: Airworthiness Requirements – Required Inspections](#))

135. What requirements must be met to legally fly an airplane if something is found inoperative and the airplane has no Minimum Equipment List? (REF: FAR Part 91-213)

136. What documents must be on board a US Registered aircraft before it can legally be flown within the US? (REF: FAA-H-8083-25A / CHAP 8 & FAR Part 91.203, 14 CFR 91.9, 14 CFR 23.1581, 14 CFR 23.1589)

137. What documents must be on board a US registered aircraft before it can legally be flown *OUTSIDE* the US? (REF: FAA-H-8083-25A, Pg. 13-11 & **47 CFR 87.18**)

***Hint: Google “47 CFR 87.18”**



CFI Pre-Course Exam

138. What is an MEL? (REF: FAA-H-8083-25A / CHAP 8, FAR Part 91.213)
139. How can a flight school obtain an MEL for an airplane? (REF: FAA-H-8083-25A / CHAP 8, FAR Part 91.213(a)(2))
140. What is an STC?
(REF: www.faa.gov search: Supplemental Type Certificate, AC 21-40)
141. Why does an approved MEL with its LOA constitute an STC? (REF: FAA-H-8083-25A / CHAP 8 & FAR Part 91.213(a)(2))
142. Under what circumstances can a person legally ferry an airplane that is out of Annual? (REF: FAA-H-8083-25A / CHAP 8 – “Special Flight Permit”)
- * Hint – Go to www.faa.gov and search “special flight permit”**
143. What is an Approved Aircraft Inspection Program (AAIP) a.k.a. progressive inspection? (REF: FAR Part 91.409(d), AC 135-10A)



CFI Pre-Course Exam

IV. Area of Operation: Preflight Lesson

144. *What is meant by the phrase “recognition, analysis, and correction of common errors”? (REF: CFI PTS AOA IV, Task A (4))

V. Area of Operations: Preflight Procedures

A. Preflight Inspection

145. What are the proper indications accompanying a “prop feather check” in a Piper Seminole? (REF: Piper Seminole POH 4-17, ATP Piper Seminole Run Up Checklist)
146. What are the proper indications accompanying a “prop governor check” in a Piper Seminole? (REF: Piper Seminole POH 4-18, ATP Piper Seminole Run Up Checklist)
147. Where is the pitot-static line drain on the Piper Seminole? (REF: Piper Seminole PIM: 7-21 – Figure 7.23)
148. What is meant by the term “emergency safe oil level” in the Piper POH? (REF: Piper Seminole POH Section 8, Page 8-10)

B. Single Pilot Crew Resource Management

149. Define Single Pilot Crew Resource Management (SRM). (REF: FAA-H-8083-25A / CHAP 17-4)
150. List the proper procedure for “positive exchange of flight controls”. (REF: FAA-H-8083-9A / Pg. 8-9 FAA-H-8083-3A / Pg. 1-6)
- 1.
 - 2.
 - 3.



CFI Pre-Course Exam

151. List the elements required for a legal passenger briefing. (REF: FAR Part 91.519(a)(1-6))

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.

152. What is the regulatory requirement for the use of seatbelts / shoulder harnesses, start-up, taxi, takeoff, cruise, and landing? (REF: FAR Part 91.105 & 91.107)

Required Crewmembers –

Passengers -

C. Engine Starting

153. What is the importance of leaning for density altitude? (REF: FAA-H-8083-25A / Pg. 6-8) Piper Seminole PIM, 4.33)

154. Explain the importance of setting a low RPM (800-1000) immediately after engine startup? (REF: FAA-H-8083-3A / Pg. 2-7 & 8)

155. Name two atmospheric conditions that raise density altitude and reduce engine performance? (REF: FAA-H-8083-25A / CHAP 10-5)

- 1.
- 2.



CFI Pre-Course Exam

D. Taxiing

156. What is the turning radius of the Piper Seminole? (Piper Seminole POH Chapter 1)
157. What are the appropriate control inputs for taxiing in wind? (REF: FAA-H-8083-3A / Pg. 2-9)

G. Before Takeoff Check

158. What is the “Challenge Response” method of performing an engine run up using a checklist? (REF: FAA-H-8083-25A / CHAP 17 overview ADM & CRM, FAA-H-8083-9A / CHAP 8 & 9 ADM, CRM)
159. Why should a pilot always be ready to abort on take-off, particularly in a twin engine airplane? (REF: FAA-H-8083-25A Chapter 17)

VI. Area of Operations: Airport...Operations

A. Radio Communications & ATC Light Signals

160. What is the purpose of a “clearance delivery” frequency? (REF: AIM Ch. 4 & 6)
161. What is the appropriate method for approaching an airport with an operating control tower when the airplane’s radios aren’t functioning? (REF: AIM 4-2-13 & 4-3-13)
162. What light gun signal should a pilot with inoperative radios see before landing? (REF: AIM 4-3-13)

CFI Pre-Course Exam

B. Traffic Patterns

163. What is the correct downwind speed for the Piper Seminole? (REF: Piper Seminole Training Supplement)

C. Airport & Runway Markings and Lighting

164. Describe five types of airport & runway markings. (REF: FAA-H-8083-25A / CHAP 13 & AIM Color Figures)
- a.
 - b.
 - c.
 - d.
 - e.

VII. Area of Operations: Takeoffs, Landings, & Go-Around

B. Short Field Takeoff

165. Describe the elements of a short field takeoff in the Piper Seminole (no flaps). (REF: FAA-H-8083-3A / CHAP 5 & PTS AOA VII, Piper Seminole POH)

G. Short Field Approach & Landing

166. Describe the elements of a short field landing, Piper Seminole, Private Pilot level. (REF: FAA-H-8083-3A / Ch.8 and PTS Area of Operations VII and Seminole Manual)

VIII. Area of Operations: Fundamentals of Flight

B. Level Turns

167. Differentiate between shallow, medium and steep bank, level turns. (REF: FAA-H-8083-3A / Ch. 3 and PTS Area of Operations VIII)



CFI Pre-Course Exam

IX Area of Operations: Performance Maneuvers

A. Steep Turns

168. Describe the elements of a Steep turn, Piper Seminole, Commercial Pilot level. (REF: FAA-H-8083-3 A/ Ch. 9 and PTS Area of Operations IX)

X Area of Operations: Ground Reference Maneuvers

C. Turns around a Point

169. Do a lesson plan for a preflight maneuver briefing on turns around a point. (REF: FAA-H-8083-3A / Ch. 6 and PTS Area of Operations X).

XI Area of Operations: Slow Flight & Stalls

B. Power-on Stalls

170. Describe the elements of a Power on Stall, Private Pilot. (REF: FAA-H-8083-3A / Ch. 4 and PTS Area of Operations XI).

C. Power off Stalls

171. Describe the elements of a power off stall, Commercial level. (REF: FAA-H-8083-3 / Ch. 4 and PTS Area of Operations XI).

172. What primary flight control[s] is/are used if a wing drops during the conduct of a stall demonstration? (REF: FAA-H-8083-3A / Ch. 4.)



CFI Pre-Course Exam

XII Area of Operations: Basic Instrument Maneuvers

E. Recovery from Unusual Attitudes

173. Describe the elements for the setup, execution, and recovery from nose high, and nose low unusual flight attitudes. (REF: FAA-H-8083-25A Chapter 17 and CFI PTS Area of Operations XII)

XIII Area of Operations: Emergency Operations

A. System & Equipment Malfunctions

174. What are the indications that the LEFT vacuum pump has failed in a Piper Seminole? (REF: FAA-H-8083-25A Chapter 6 & 7 and Piper Seminole POH)
175. What is one possible indication of low hydraulic fluid, or, a leak in the gear system of the Piper Seminole? (REF: FAA-H-8083-25A Chapter 6 & 7, and Piper Seminole POH)
176. What is the appropriate action for prop over speed in the Piper Seminole? (REF: FAA-H-8083-3A Chapter 6 & 7 and Piper Seminole POH)

B. Engine Failure during Takeoff before V_{mc}

177. When teaching this procedure, what is the note associated with this task? (REF: FAA-H-8083-3A Chapter 12 and Piper Seminole POH)

E. Emergency Descent

178. Discuss the elements of emergency descent from the Seminole POH. (REF: FAA-H-8083-3A Chapter 16 and Piper Seminole POH)



CFI Pre-Course Exam

XIV Area of Operations: Multiengine Operations. Information is from the Piper Seminole Manual

A. Operation of Systems

179. Be able to describe the following Seminole Systems, as if teaching a commercial pilot:

- A. Power plant
- B. Propellers
- C. Landing Gear
- D. Fuel
- E. Oil
- F. Hydraulic Systems
- G. Electrical System
- H. Pitot static vacuum system (REF: FAA-H-8083-25A Piper Seminole POH).
- I. Antenna array[s] on the Piper Seminole.

B. Performance & Limitations FAA H-8083-25A Chapter 10

1.NOTE: Wind Calm; Temp 40C, Dew Point 10C, altimeter setting, 29.72; Seminole ramp weight 3816.
Airport Elevation 2205

180. Based on the above info, determine the following (REF: FAA-H-8083-25A and Piper Seminole POH):

- Pressure Altitude
- Density Altitude
- Accelerate Stop Distance
- Single Engine Rate of Climb
- Takeoff over 50' obstacle, short field effort
- Landing distance, over a 50' obstacle, short field effort

*For Single Engine Service Ceiling, change only temperature to 0 degrees Celsius, and aircraft weight to 3600lbs.

181. Using data for *single-engine service ceiling provided above, calculate:

- Single engine absolute ceiling
- Single engine service ceiling

182. What is a Standard Day at Sea Level? FAA H-8083-25A Chapters 10 & 11

183. What is a Standard Day at Las Vegas, Nevada using 2000 MSL? FAA H-8083-25A Chapters 10 & 11

184. What is a standard Day at Denver Colorado, using 6000 MSL? FAA H-8083-25A Chapters 10 & 11



CFI Pre-Course Exam

185. What is the definition of True Air Speed? (REF: FAA-H-8083-25A Chapters 10 & 11 and Piper Seminole POH).
186. .What's the difference in TAS and Horsepower, for Santa Barbara CA, versus Denver CO? (REF: FAA-H-8083-25A Chapters 10 & 11,and Piper Seminole POH)
187. What are the prerequisites for Carburetor Ice to form? (FAA H-8083-25A CHAPTER 6)
188. What is the temperature spread given in the Seminole POH, that may cause carburetor Ice to form? (REF: FAA-H-8083-25A Chapter 6 and Piper Seminole POH Chapter 3)

C. Flight Principles-Engine Inoperative

189. Per the ATP Piper Seminole Training Supplement, discuss the various factors that had to be demonstrated to prove VMC [SMACFUM] (REF: FAR Part 23, FAA-H-8083-3A/ Ch. 12, ATP Piper Seminole Training Supplement, PTS, and Piper Seminole POH)
190. What manufacturer has to prove a climb at 5000'DA on one engine [HINT: weight & V_{so} are the factors to be considered]? (REF: FAR Part 23, FAA-H-8083-3A /, ATP Piper Seminole Training Supplement, PTS, and Piper Seminole POH).
191. What is Accelerate Stop Distance? FAR Chapter 1/AIM GLOSSARY
192. What is Accelerate go distance? FAR Chapter 1/AIM GLOSSARY



CFI Pre-Course Exam

193. What is a Stopway? FAR Chapter 1/AIM GLOSSARY
194. What are the elements of the acronym “PAST” that are used to discuss why a conventional twin has a critical engine? (ATP Piper Seminole Training Supplement, PTS, and Piper Seminole POH)
- P –
- A –
- S –
- T-
195. What is the appropriate emergency response in the Piper Seminole to an engine failure **when the airspeed drops below VMC**? (ATP Piper Seminole Training Supplement, PTS, and Piper Seminole POH Chapter 3)
196. When is the VMC Demonstration “over”, even if there is no roll or yaw into the dead engine? (REF: FAR Part 23, FAA-H-8083-3A / ATP Piper Seminole Training Supplement, and Piper Seminole POH Chapter 4)

F. “Drag” Demonstration

197. What are the elements of the DRAG DEMO per the ATP Piper Seminole Training Supplement? (ATP Piper Seminole Training Supplement, CFI PTS Area of Operations XIV.)

XV Area of Operations- Post flight Procedures

A. Post flight Procedures

1. What are the three possible outcomes to any practical test? (REF: FAR Part 61-43 and the Introduction to ALL Practical test Standards)



CFI Pre-Course Exam

2. What constitutes “unsatisfactory performance” on a CFI Practical Test and how does that differ from a Commercial Practical Test? (REF: (REF: Introductions to MEI & Commercial PTS)

3. At whose discretion is a practical test continued after an unsatisfactory event? (REF: FAR Part 61.43 and the Introduction to ALL PTSs)

4. Who is PIC in the event of an emergency during a practical test? (REF: FAR Part 61.47 and the Introduction to ALL PTSs)

5. What are post flight procedures on the Piper Seminole? (REF: FAA-H-8083-3A Chapter 2, MEI PTS Area of Operations XV, & Piper Seminole POH)