Pre-Solo Written Test
Alameda Aero Club

61.87 Solo requirements for student pilots
(b) *Aeronautical Knowledge*
A student pilot must demonstrate satisfactory aeronautical knowledge on a knowledge test that meets the requirements of this paragraph: (1)The test must address the student pilot's knowledge of – (i)Applicable sections of Parts 61 and 91 of this chapter; (ii)Airspace rules and procedures for the airport where the solo flight will be performed; and (iii) Flight characteristics and operational limitations for the make and model of aircraft to be flown. (2) The student's authorized instructor must – (i) administer the test; and (ii) At the conclusion of the test, review all incorrect answers with the student before authorizing that student to conduct a solo flight.

Completion of this test is a prerequisite to solo flight as stated in the FAR above. Answers to the questions are contained in the Federal Aviation Regulations Parts 61 and 91, Aeronautical Information Manual and the Pilot's Operating Handbook. Answer the question in the space immediately below the question. **Upon completion, this form remains with the Alameda Aero Club.**

1. A student pilot is required to have what class of medical certificate to exercise his/her privileges as a pilot? (14 CFR 61.3(c) 61.23 (a)(3)(iii))

2. When does a student pilot need a medical certificate? (14 CFR 61.3 (c))

3. What are the penalties for offenses that involve alcohol or drugs? (14 CFR 61.15 (a))

4. What day would a 3rd class medical expire if it were issued on June 15, 2011? (14 CFR 61.23 (d))
    1. If the pilot is 38?

    2. If the pilot is 42?

5. Can a student pilot log all solo flight time as pilot-in-command time? (14 CFR 61.51 (e)(4))

6. If a student pilot receives a solo endorsement in a Cessna 172, is that student allowed to solo in a Cessna 150 without additional endorsements? (14 CFR 61.87 (n))

7. Is it necessary for a student pilot to have any special endorsements on his/her Student Pilot Certificate prior to solo? (14 CFR 61.87(n))

8. When a student pilot's certificate is endorsed for solo flight, is that pilot permitted to make solo cross-country flights? (14 CFR 61.93 (c))

9. When can a student pilot act as pilot-in-command of an aircraft carrying a passenger? (14 CFR 61.89 (a))

10. Are deviations from control tower instructions allowed in the case of an emergency? (14 CFR 91.3 (b) and 91.123 (b))

11. Do the Federal Aviation Regulations specifically prohibit the operation of an aircraft in a careless and reckless manner? (14 CFR 91.13)

12. Is buzzing or intentionally flying in close proximity to the ground, other than for takeoff or landing, considered to be careless or reckless? (14 CFR 91.13 & 91.119)

13. Is any preflight action required of a student pilot prior to solo flight in a local area? (14 CFR 91.103)

14. Is it mandatory that a pilot keeps his or her seatbelt fastened while at the controls of an aircraft? (14 CFR 91.105)

15. What are the restrictions on the proximity of one aircraft to another in flight? (14 CFR 91.111)

16. If an airplane is converging with a glider at approximately the same altitude, which has the right of way? (14 CFR 91.113)

17. Which aircraft has the right of way when two or more aircraft at different altitudes, but not on final approach, are approaching an airport for the purpose of landing? (14 CFR 91.113 (g))

18. Which aircraft has the right of way when an aircraft is being overtaken by another? (14 CFR 91.113 (f))

19. When aircraft are approaching each other head on, in which direction should each pilot alter course? (14 CFR 91.113 (e))

20. In what direction should a pilot alter course to pass well clear of another aircraft that is being overtaken? (14 CFR 91.113 (f))

21. Except when necessary for takeoff and landing, what is considered to be a minimum safe altitude for all flight situations? (14 CFR 91.119 (a))

22. What is the minimum safe altitude over congested areas as established by the regulations? (14 CFR 91.119 (b))

23. Assuming there is no altimeter setting available at your airport, what setting would you use for local flight? (14 CFR 91.121 (a)(1))

24. What are the standard light signals for the control of airport traffic and what is the meaning of each signal on the ground? (14 CFR 91.125)

    In the air?

25. Are there any restrictions to operating within Class B airspace except for the purpose of landing or taking off? (14 CFR 91.131 (a))

26. What is the standard direction for all turns for an airplane approaching to land at an airport without a control tower? (14 CFR 91.126 (b)(1))

27. Is a visual display appropriate to indicate nonstandard traffic directions for an airport without a control tower? (14 CFR 91.126 (b)(1))

28. Is a pilot required to comply with the instructions of a control tower when operating at an airport without a control tower? (14 CFR 91.129 (c)(2)(ii))

29. In the case of lost radio contact with a control tower, what is the prescribed action for the traffic pattern, entry, approach, and landing? (14 CFR 91.129 (d) and AIM 4-2-13 (a)(3))

30. When operating an aircraft equipped with a two-way radio at an airport with a control tower, is the pilot required to maintain communications with the control tower? (14 CFR 91.129 (c))

31. May a pilot at an airport with a control tower taxi an aircraft on a runway before he has received a clearance from the appropriate controlling agency? (14 CFR 91.129 (i))

32. What is the prescribed flight visibility and cloud clearance for operating an aircraft in Class B, C, D and E airspace? (14 CFR 91.155 (a))

33. What are the basic VFR weather minimums in the lateral boundaries of the Class B, C, D and E airspace designated to the surface of an airport? (14 CFR 91.155 (c)(d))

34. What are the basic VFR weather minimums and flight visibility and could clearance in Class G airspace at or below 1.200 feet above ground during the day and at night? (14 CFR 91.155 (a)(b))

35. What are the appropriate altitudes when operating an aircraft VFR in level cruising flight at an altitude of more than 3.000 feet above the surface on a magnetic course of 0 degrees through 179 degrees? (14 CFR 91.159)

    180 through 359 degrees?

36. May an aircraft be operated after sunset without displaying position lights? (14 CFR 91.209 (a))

37. Is an intentional maneuver that exceeds a bank of 60 degrees, or pitch up or pitch down in excess of 30 degrees considered an acrobatic maneuver? (14 CFR 91.307 (c))

38. How can Class E airspace down to 700 feet, and to the surface, be identified on sectional aeronautical charts? (Sectional Aeronautical Chart Legend)

39. What visual display is used to indicate that an airport runway or taxiway is closed to traffic? (Airman's Information Manual 2-3-6 (d)(e))

40. What are the dimensions of a standard Class D airspace? (Aeronautical Information Manual, Sectional Chart)

AIRCRAFT REVIEW

41. Aircraft make and model _____

42. Aircraft Registration N# _____

43. What is the total fuel capacity in gallons _____

    In pounds? _____

44. How many tanks? _____

45. What is the correct fuel grade and color? _____

46. What is the total useable fuel capacity? _____

47. Where are the fuel sump drains located? _____

48. What is the recommended grade of oil? _____

49. What is the maximum and minimum operating oil level? _____

50. What is the aircraft's basic empty weight? _____

51. What is the useful load? _____

52. What is the maximum gross takeoff weight? _____

53. What is the indicated airspeed for the following?

    V_{SO} _____ V_{S1} _____ V_{SO} at 60° bank _____

    V_X _____ V_Y _____ V_G _____ V_A at 2300 lbs_____

    V_{NO} _____ V_{NE} _____ V_{CW} _____ V_A at 1950 lbs_____

54. What is the purpose of flaps?

55. What is the power setting, fuel consumption and true airspeed for the following:
65% power, 7,500 MSL, standard temperature?

56. What would be an indication of an alternator failure on your aircraft.

57. Describe the “GO AROUND” procedure.

58. What is the minimum runway length for a takeoff in your airplane, given:
Maximum gross weight, no wind, sea level, standard temperature?

59. What is the takeoff distance of your aircraft, given:
Maximum gross weight, no wind, 5,000’, 100° F, 50’ obstacle?

60. What aircraft documents must be onboard during a flight? (ARROW)

61. If the CG (Center of Gravity) is outside the envelope, how can you bring it back inside the envelope?

62. What are the hazards of flying an aircraft with the CG beyond the forward limit?

63. What are the hazards of flying an aircraft with the CG beyond the rear limit?

64. Compute the total weight and moments for yourself (solo) with full fuel.

	Weight	Arm	Moment
Airplane	_____	_____	_____
You	_____	_____	_____
Full Fuel	_____	_____	_____
Baggage	_____	_____	_____
TOTAL	_____	_____	_____

65. Is your aircraft within the Center of Gravity limitations?

66. Describe the engine failure emergency procedure.

Reviewed by: _____
Instructor (print)

_____
Instructor (signature)

_____
Date

Pilot's Total Time _____ Time in Make _____ Model _____