FMFA Piper Warrior II & Archer II Aircraft (eff 03/11/2025)

Pilot _____ Date _____ Corrected by _____

Complete this open book test using the FAR/AIM/POH/FMFA documents, as appropriate. Assume you are operating an FMFA aircraft. Unless stated otherwise, the question and answer refer to both the Warrior II and Archer II. Your flight instructor will grade the test. Minimum passing score is 80%. The completed test will be filed in the pilot's file and the date will be entered into the FMFA scheduling and dispatch system.

1. Total fuel capacity is _____ gallons with _____ of useable fuel.
2. A fuel tank is located in each wing. If a side is filled to the "tabs," there is approximately _____ gallons of fuel in the wing with _____ gallons of useable fuel.
3. The engine horsepower of the Warrior is _____ and Archer is _____.
4. Endurance at 75% power mixture at 5000 ft PA with a 1 hour reserve for the Warrior is _____ and the Archer is _____ hours with standard conditions, best power mixture, standard tanks. (Excluding taxi, runup, extra fuel for climb.)
5. Best glide speed for the Warrior is _____ and Archer is _____ (KIAS).
6. Fuel tank selector positions are _____.
7. The maximum flap extension speed (Top of White Arc) for the Warrior is _____ and Archer is _____ KIAS.
8. The maximum demonstrated crosswind component is _____ KTS.
9. The best method of detecting carburetor ice in flight is _____. During the runup carb heat check,
   no drop in rpm means _____,
   a drop followed by a rise means _____,
   a drop with no rise means _____.
10. The minimum/maximum oil levels are _____ quarts.
11. Maximum baggage compartment weight is _____ lbs.
12. The maximum gross takeoff weight for the Warrior is _____ and Archer is _____lbs.
13. The voltages of battery and electrical system are _____ and _____, respectively.
14. Complete Weight & Balance Tables for Warrior N31669 and Archer N2846N. Assume full fuel, pilot 200 lbs, copilot 200 lbs and baggage 15 lbs. Attach tables to this test. (You may use the W&B Excel spreadsheet on the FMFA website.) The aircraft W&B tables indicate that the Warrior is IN / NOT IN and Archer is IN / NOT IN weight & balance limits. (Circle)
15. The stall warning horn will work without electrical power. a. True b. False
16. Back seat passengers and baggage are allowed for utility operations. a. True b. False
17. The flaps are hydraulic/electrical/manual (Circle) with settings of ___, ___, ___, ___ degrees.
18. Slips are allowed a. In any configuration b. With 25^0 flaps or less c. Only without flaps
19. The Warrior Vx is _____ and Vy is _____ KIAS. The Archer Vx is _____ and Vy is _____ KIAS.
20. The maneuvering speed Va at maximum gross weight for the Warrior is _____ and Archer is _____ KIAS.
21. The Warrior's stall speed is _____ KIAS with 40 deg flaps and _____ KIAS with flaps up and power off.
    The Archer's stall speed is _____ KIAS with 40 deg flaps and _____ KIAS with flaps up and power off.
22. The ammeter displays in amperes the load placed on the alternator. a. True b. False
23. If low oil pressure is accompanied by normal oil temperature:
    a. Continue and monitor gauges for remainder of flight b. Land at nearest airport and inspect
    b. Operate at reduced power setting c. Ignore indication as faulty and continue to destination
24. The checklist says to turn off the electric fuel pump after starting the engine and turn it back on before takeoff. Why is this procedure required? _____

24. Give the immediate action/memory items:

a. Engine failure immediately after takeoff:

b. Engine fire and engine fails to start

c. Engine fire in flight

d. Electrical fire in flight

25. Warrior - Given: PA = 1500 ft; Temp = 30C; RWY 27; Wind 270@15; Gross Wt 2175 lbs; RWY is paved, level, and dry.
The Warrior's total takeoff distance to clear a 50' obstacle is _____ ft.
Archer - Given: PA = 2000 ft; Temp = 21C; RWY 27; Wind 270@8; Gross Wt 2400 lbs; RWY is paved, level, and dry.
The Archer's total takeoff distance to clear a 50' obstacle at max takeoff weight _____ ft.