1. Describe the general systems of this aircraft:
    a. Aircraft structure – _____
        i. What is the structural temperature limit? ____ °C
        ii. Where can these 'limits' be observed? _____
    b. Engine – _____
    c. Fuel – Capacity?_____gal, No of Tanks & location? _____Usable?_____ gal
        i. Position & location of fuel drains to sump_____
        ii. Type of fuel permitted?_____
        iii. Fuel flow indication - _____
        _____
        _____
    d. Oil Type (all weather)? _____ Sump Capacity? _____ qts
    e. Electrical system is a _____v system and supplied by a _____ v battery
    f. Propeller _____
    g. Heating/ventilation – _____
    h. How are the flaps operated? _____
    i. What are some electrical accessories in this aircraft? _____
    _____
    j. Landing Gear – _____
    k. Brakes - _____
2. What is the manufacturer recommendation for leaning the mixture? _____
_____
_____
_____
3. What is the ramp weight for this aircraft? _____lbs.
4. What is the maximum take-off and landing weight for this aircraft is _____ lbs
5. Current basic empty weight and arm for this aircraft is? _____ lbs., _____ inches
6. What is the Useful Load of this aircraft? _____ lbs
7. How much payload can be carried assuming maximum fuel on board? _____ lbs.
8. What is the maximum weight permitted in the baggage compartment in normal category? _____lbs
9. The proper main tire pressure is _____ psi, and for the nose wheel it is _____ psi
10. Upon a "Generator Failure" condition, what actions should the pilot take?
    a. _____
    b. _____
    c. _____
    d. _____
11. When should the electric fuel pump be used?_ _ _____
_____
    a. What is the worst-case fuel burn you can expect at a pressure altitude of 2000ft? _____gph and under what conditions would this occur? _____

   b. What is the 'best-case' fuel burn at the same pressure altitude? _____ gph, and under what conditions? _____

12. What actions should be taken if "Loss of Fuel Flow/Pressure" occurs?
   a. _____
   b. _____
13. Starter cranking is limited to _____ seconds with _____ minute rest periods between cranking cycles
14. What is the "COLD START" procedure? _____
_____
_____

15. What causes engine flooding?_____
16. What is the procedure for starting the aircraft if the engine is FLOODED? _____
_____
_____
17. How do you "HOT START" this aircraft? _____
_____
_____
18. What is the manufacturer's recommendation for "warming up" the engine oil if cold? _____
_____
_____
19. Is it permissible to fly this aircraft into forecast/known icing conditions? _____
20. What are the following speeds for this aircraft?

| V-speed | KIAS | V-Speed | KIAS |
|---|---|---|---|
| $V_R$ | | $V_X$ | |
| $V_{GLIDE}$ | | $V_Y$ | |
| $V_{NO}$ | | $V_{NE}$ | |
| $V_{SO}$ | | $V_{LO}$ | |
| $V_{FE\ (T/O)}$ | | $V_A$ | |
| $V_{FE\ (LDG)}$ | | $V_{CRUISE\ CLIMB}$ | |

21. What is the maximum demonstrated X-wind for this aircraft? _____ KTS
22. What type of stall warning indication does this aircraft have? _____
23. How does this aircraft prevent inadvertent leaning of the fuel mixture? _____
_____
24. What are the flap settings of this aircraft? _____
25. During a Short- or Soft-Field takeoff, the flaps should be lowered to the _____ position
26. How can you determine if the warning lights on the panel are functional?_____
_____
27. Where is the ELT located? _____
28. Can the ELT be activated from the flight deck (Yes/No )_____
29. What are the first four steps in the emergency procedure for an in-flight (electrical) engine fire?
   a. _____ b. _____ c. _____ d. _____

30. When should alternate air be used? _____

31. What is the approximate ground roll distance under the following conditions: Landing weight: Gross, Obstacle: 0 ft., Flaps: FULL, Power: Idle, Pressure Alt: Sea Level, Wind: 0 kts ? _____ft.

32. What is the expected climb performance at gross weight, 40°F at sea level pressure? _____ ft/min

33. What might you expect in the above situation if the ambient temperature has risen to 80°F? _____ ft/min

34. What is the no-wind power-off glide range at a pressure altitude of 3500ft and standard temperature? _____ nm

35. You may expect a take-off distance of _____ ft (including ground roll) at sea level and gross weight if the ambient temperature is 10°C, and you have a head-wind of 10 kts

36. What might you expect in the above situation if the ambient temperature has risen to 30°C? _____ ft

37. What is the glide ratio of this aircraft? _____

38. You can expect to glide a distance of _____ nm from an altitude of 3,500ft.

39. What happens to the Garmin G5 AI and HSI in the event of an electrical failure?_____

_____

40. What actions should you perform in the event of an electrical failure? _____

_____

_____

Notes

This aircraft is equipped with the following, so take some time to become familiar with their use:

- ElectroAir Dual Electronic Ignition/Starter (with 2.5hr battery backup on one mag)
- Dual Garmin G5 (with 3.5-4hr battery backup per unit)
- FlyEI CGR-30P Engine Indication System
- Garmin GMA340 Audio Panel
- Garmin GNS430 GPS
- Garmin GNC255 Nav/Comm Radio
- Garmin GTX330 Transponder

## Weight and Balance for: DA20 N552MA

| Item | Capacity | Weight | Arm | Moment |
|---|---|---|---|---|
| Empty Aircraft | | 1211 | 7.76 | 9397.36 |
| Main Fuel | _____ | _____ | 32.44 | _____ |
| Seating Row 1 | _____ | _____ | 5.63 | _____ |
| Baggage | _____ | _____ | 32.44 | _____ |
| Totals | | _____ | | _____ |

**Verify all numbers with the Pilot Operating Handbook**

| | |
|---|---|
| Maximum Gross Weight: | 1764 |
| Maximum Takeoff Weight: | 1764 |
| Maximum Landing Weight: | 1764 |
| Maximum Non-Fuel Weight: | 1671 |

**Normal Center of Gravity Envelope:**

| | | | | | |
|---|---|---|---|---|---|
| Weight: | 1764 | Minimum Arm: | 8.07 | Maximum Arm: | 12.16 |
| Weight: | 1653 | Minimum Arm: | 7.95 | Maximum Arm: | 12.48 |
| Weight: | 1200 | Minimum Arm: | 7.95 | Maximum Arm: | 12.48 |

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