Aircraft Checkout Form

Pilot Name:_____ Date: _____

Aircraft Make: _____ Model: _____

General Aircraft Information

What is the type, make, and model of the engine(s): _____

Is the propeller fixed pitch or variable: _____ What is the power output of the engine(s):_____

Type of fuel control (carburetor, fuel injection, other): _____

If carburetor, when do you use the carburetor heat: _____

Describe how the heater functions: _____

Is there an alternate air source (fuel injection only)_____ When is it used: _____

Describe the electrical system: _____

_____

What are the locations of the critical fuses or circuit breakers for the landing lights, flaps, landing gear, and generator/alternator:

_____

_____

What is the proper tire pressure for the nose gear: _____ What is the proper tire pressure for the main gear: _____

Aircraft Operating Weights

What is the aircraft's gross weight: _____ What is the aircraft's empty weight: _____

What is the aircraft's useful load: _____ What is the aircraft's gross takeoff weight: _____

What is the aircraft's gross landing weight: _____ What is the aircraft's zero fuel weight **(Multi-Engine Only):** _____

What is the maximum allowable weight the aircraft can carry in its baggage compartment(s): _____

Multi-Engine Aircraft Only:

What is the safe single-engine speed (Vsse): _____ What is the best rate of climb speed, single-engine (Vyse): _____

What is the best angle of climb speed for single-engine conditions (Vxse): _____

What is the single-engine service ceiling: (standard conditions): _____

Aircraft Speeds

What is the normal rotation speed (Vr): _____
What is the normal climb-out speed: _____
What is the best rate of climb speed (Vy): _____
What is the best angle of climb speed (Vx): _____
What is the normal cruise speed: _____
What is the maximum flap extended speed (Vfe): _____
What is the maximum landing gear extended speed (Vle): _____
What is the stalling speed in the takeoff configuration (Vs): ____
What is the stall speed in a 60° bank with full flaps: _____
What is the stall speed in a 60° bank with 0 flaps: _____
What is the design-maneuvering speed (Va): _____
What is the never-exceed speed (Vne): _____
What is the normal operating speed range: _____
What is the maximum structural cruising speed (Vno): _____
What is the maximum landing gear operating speed (Vlo): _____
What is the approach-to-landing speed: _____
What is the stalling speed in the landing configuration (Vso): ___
What engine-off glide speed will give you the maximum glide range: _____
What is the maximum demonstrated crosswind component for the aircraft: _____ Is this an operating limitation (circle one): Yes or No

Performance Planning

How much useful load can the aircraft carry with full fuel: _____

How many pounds of baggage can the aircraft carry with full fuel and each seat occupied by a 170 pound passenger: _____

Solve the following weight & balance computation - You and a 170 pound passenger with 20 lbs of baggage:

What is the gross weight: _____ **(Attach weight & balance form)** What is the center of gravity: _____

Is the flight within the weight & balance envelope: _____ How long can you fly: _____

With full fuel and allowing for a 45 minute reserve, what is the maximum fuel endurance in hours at 65% power at 5000ft PA., standard conditions, lean mixture, zero wind, and maximum gross weight: _____

What is the TAS at 5,000 ft PA. and 65% power: _____

What RPM or combination of RPM and manifold pressure yields 65% power at 8,000 ft PA. standard conditions – RPM: _____MP: _____

What is the fuel flow per hour at 65% power at 10,000 ft PA., with standard conditions: _____

What takeoff distance is required to clear a 50ft obstacle at gross weight at a PA. of 6,000ft and 75°F (no wind/hard surface): _____

What would the answer be if the takeoff was made at a sea-level pressure altitude, on a grass surface runway: _____

Would high humidity increase or decrease this distance: _____ Why: _____

_____

_____

What would the standard day temperature be at an airport with an elevation of 7,000 ft: _____

What would the density altitude be at an airport with a PA of 7,000 ft, with an OAT of 85°F: _____

What is the pressure altitude of an airport with a field elevation of 5,000 ft with a current altimeter of 29.45: _____

What is the mathematical equation to determine Pressure Altitude (PA): (_____ - _____)x_____ + _____ = PA

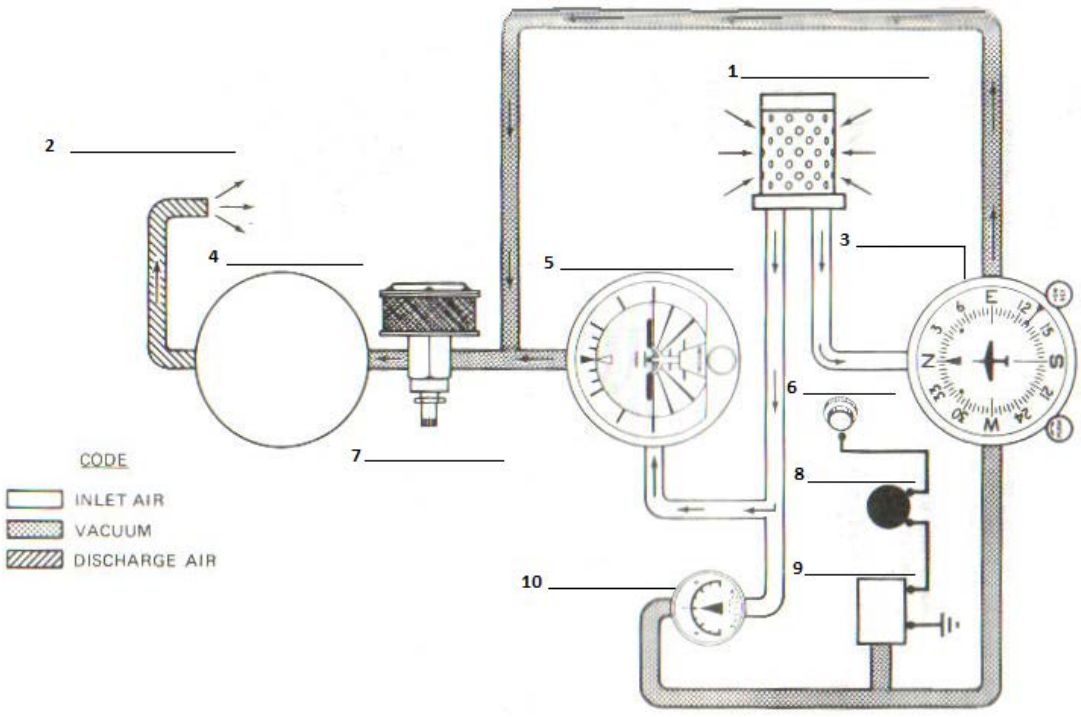
What is the mathematical equation to determine Density Altitude (DA): (_____ + [_____ x (_____ - _____)] = DA

What are the current conditions at KMMH: _____ What is the DA: _____

With the configured weight, would the flight be possible/safe: _____ If not, what would make the flight safe: _____

_____

Vacuum System



What is the purpose of the vacuum gauge: _____

What is the purpose of the vacuum pump(s): _____

How would you know if only one vacuum pump has failed: _____

How would you know if both vacuum pumps failed: _____

How many vacuum pump(s) are on your aircraft: _____

What provides power to the vacuum system: _____

What type of instruments utilize the vacuum pump system: _____

How would the heading indicator react if one/both pumps failed: _____

How would the attitude indicator react if one/both pumps failed: _____

If you had a complete vacuum pump failure what instruments would you substitute for the failed instruments: (heading indicator) _____(attitude indicator)_____

What is the normal operating suction range of the vacuum system: _____

Under low RPM settings what indication should you expect from the vacuum gauge: _____

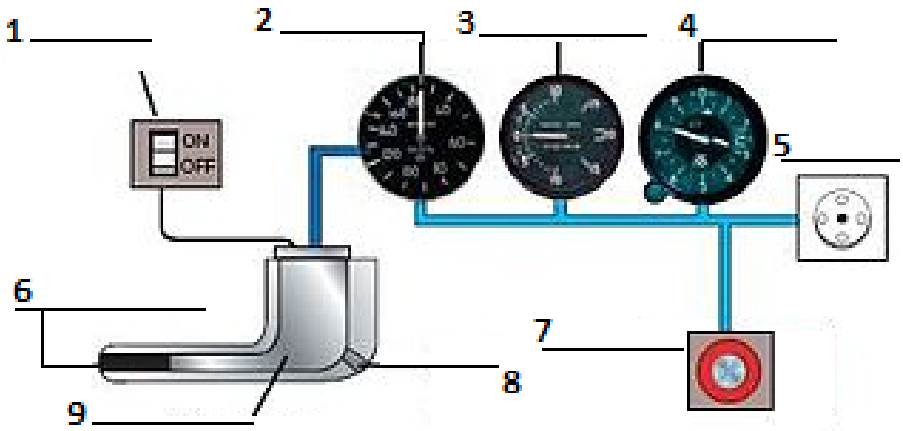
How often does the vacuum system need to be inspected: _____

If you had a complete vacuum pump failure, cracking the glass of the heading indicator results in a positive reading: **True or False**

Is the heading indicator or attitude indicator required equipment for VFR: _____

What is your primary indicator of your attitude as a VFR pilot: _____

Pitot Static System



What instruments use air pressure from the static port: _____

What instruments use air pressure from the pitot tube: _____

How would the airspeed indicator be effected by a blocked static port: _____

How would the altimeter be effected by a blocked static port: _____

How would the VSI be effected by a blocked static port: _____

Is it possible in your training aircraft to show the following – An increasing airspeed, an altimeter indicating a climb and a VSI showing a positive rate of climb **ALL** at the same time **(circle one): Yes or No** Why: _____

_____

Referencing the above question, what possible failure if any would this indicate: _____

Referencing the above question, could you utilize another system to verify your theory **(circle one) Yes or No** Which one, and why:

_____

What instrument(s) would be effected by a blocked pitot tube: _____

When do you use the alternative static source: _____

Are there any effects to instrument indications when using the alternate static source: _____

_____

When do you use pitot heat: _____

What is indicated altitude: _____

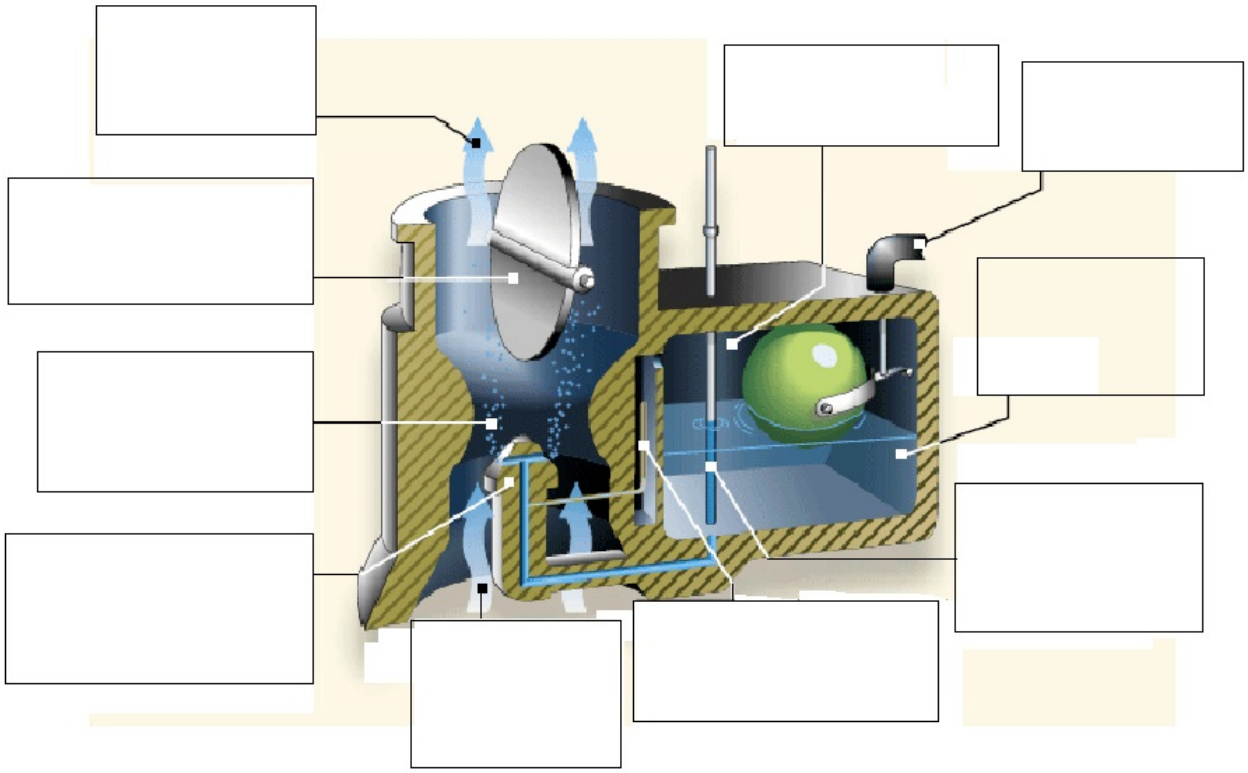
What is indicated airspeed: _____

What is calibrated airspeed: _____

What is true airspeed: _____

Float Type Carburetor

Identify each object and briefly describe its function:



What is the primary contributing factor of carburetor icing? _____

_____

If carburetor heat is applied while ice is present what indications if any will you encounter? _____

_____

If ice is allowed to accumulate, what is the likely outcome and why? _____

Describe the weather that gives you the highest probability of carburetor icing? _____

_____

What temperature drop is possible inside the carburetor, and why? _____

_____

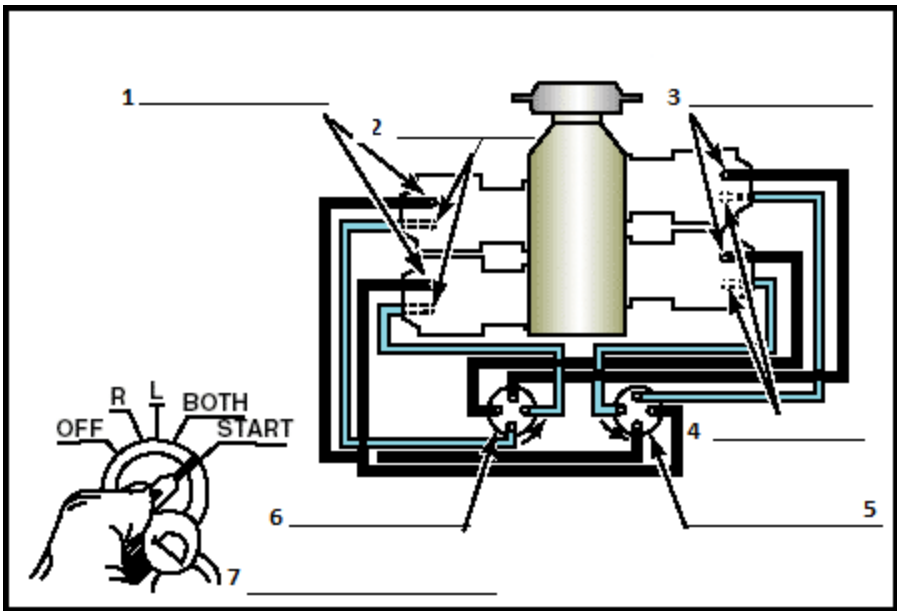
Describe how the carburetor heat functions._____

_____

During the run-up why do you experience a loss of RPM while testing the carburetor heat? _____

_____

Ignition System



What do the spark plugs do: _____

How many spark plugs per cylinder: _____

What is the purpose of the magnetos: _____

How are the magnetos driven: _____

How many magnetos are there: _____

What happens when you turn the ignition switch from “BOTH” to “L”: _____

_____

What is the normal acceptable RPM drop during the run-up check: _____

Is it acceptable to have a zero RPM drop during the run-up check, explain: _____

_____

What is the procedure for clearing a fouled spark plug: _____

_____

In the event of a complete electrical failure will the engine turn off, explain: _____

_____

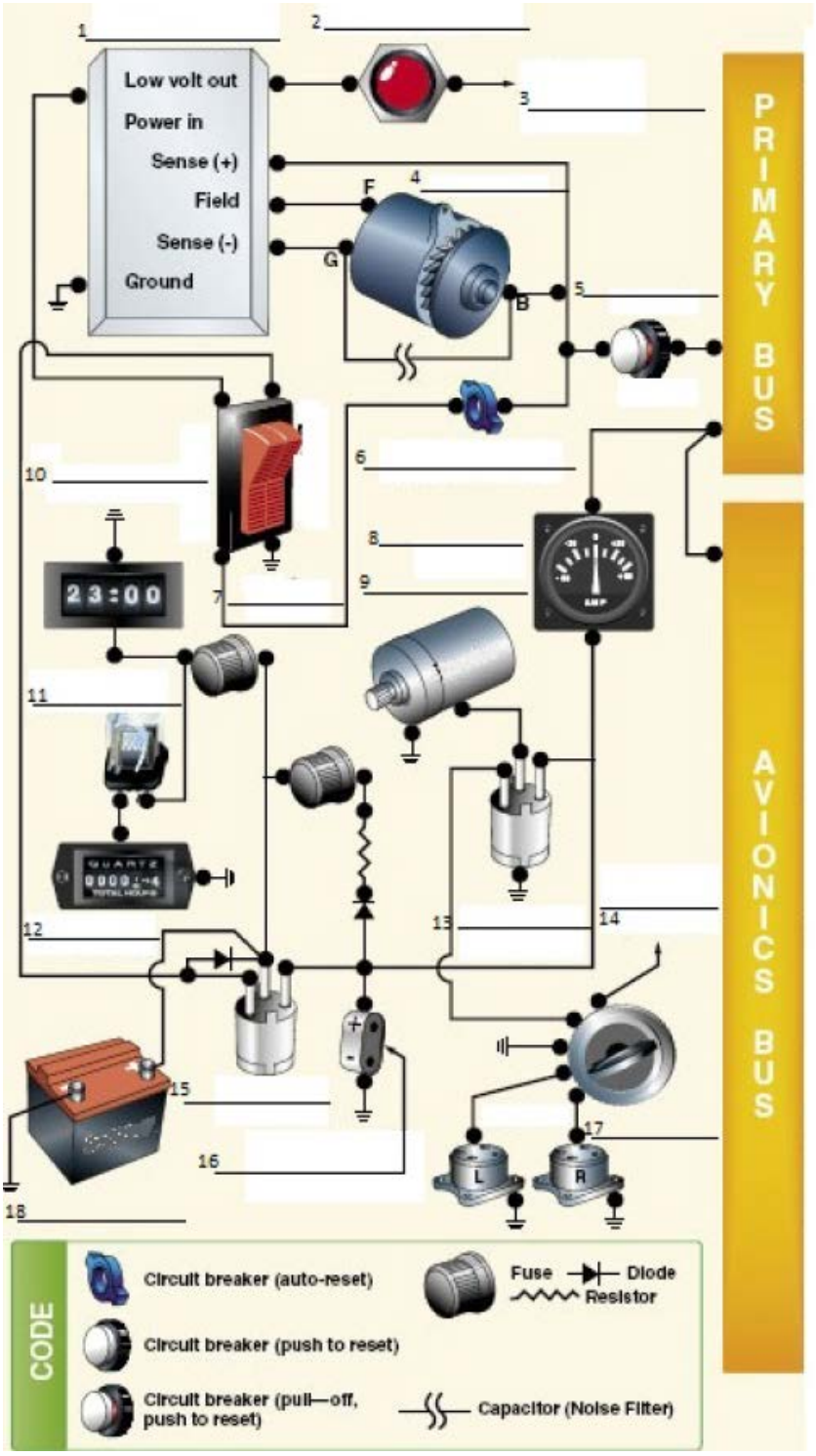
Can the airplane fly with a failed magneto, explain: _____

What course of action should be taken if you have a failed magneto in flight: _____

How long can you continue to crack the starter attempting to start the engine: _____

If you flood the engine, what is the procedure: _____

Electrical System



What is the purpose of the alternator: _____

_____

What is the power output of the alternator: _____

_____

How is the alternator driven: _____

What does the Alternator Control Unit do: _____

_____

How would you detect an excessive rate of charge

malfunction:_____

_____

During the run-up how do you determine if the battery has a charge as well as the alternator is functioning correctly, explain:

_____

_____

What is the purpose of the battery: _____

_____

How long can the plane operate in flight with a failed alternator and only a battery, explain:

_____

_____

List all the consequences of a failed electrical system:

_____

_____

_____

What are the procedures for troubleshooting an excessive rate of charge situation: _____

_____

Electrical System Cont.

How would you detect an insufficient rate of charge malfunction: _____

_____

What are the procedures for troubleshooting an insufficient rate of charge situation: _____

_____

What is the power output of the battery: _____

What is a relay: _____

What is the purpose of the master switch: _____

What is the purpose of the alternator field circuit breaker: _____

What is the purpose of the electrical starter: _____

What is the primary bus: _____

Purpose of the avionics power switch: _____

Purpose of the avionics bus: _____

What is the procedure for dealing with an individual tripped (popped) circuit breaker: _____

_____

Fuel and Oil

Describe the fuel system: _____

_____

What type of fuel is used: _____ What is the color: _____ Is there an approved alternate fuel: _____If so what: _____

What is the capacity of the fuel tank(s): _____ What is the total useable fuel: _____

Why is some fuel unusable: _____

How many fuel sumps are there and where are they located: _____

What is the type and weight of oil to be used:_____ Minimum oil before flight should be at least: _____

When do you add a quart of oil: _____ What is the maximum amount of oil allowed: _____

Should special consideration be made in regards to the oil level when the engine is hot, explain: _____

_____

Multi-Engine Aircraft Only

In the event of an engine failure, can all on-board usable fuel be fed to the operating engine(s) **(circle one): Yes or No** How: _____

_____

Describe the oil system: _____

What is the purpose of exercising the props during the run-up check: _____

_____

What will happen if there is a sudden loss of engine power during flight in regards to the actual propeller: _____

_____

What forces act and resist putting the prop into feather: _____

Why does the prop not feather on shut down: _____

Why is it important to avoid a high MP with a low RPM: _____

Landing Gear System

Is the landing gear fixed, manual, hydraulic or electric: _____

If retractable, what is the alternative procedure for lowering the gear, what are the speed limitations: _____

_____

The landing gear and the braking system utilize the same hydraulic system: **True or False**

How many checks are completed to verify the landing gear is down prior to landing, explain: _____

_____

In the event 3 green lights **DO NOT** illuminate what steps can be taken: _____

Emergency Procedures:

Explain exactly what actions you will take immediately after an engine failure: _____

_____

_____

What are the procedures when an engine fire happens on start-up: _____

_____

What are the procedures when you have an engine fire in flight: _____

_____

What are the procedures when you have an electrical fire in flight: _____

_____

What are the emergency squawk codes and what is the emergency frequency: _____

_____

What is the difference between a precautionary landing and an emergency landing, give examples of each: _____

_____

_____

_____

List **ALL** of your considerations when making an emergency **OFF** airport landing: _____

_____

_____

_____

Describe the weather conditions present during the majority of all mid-air collisions: _____

Describe the lost procedures: _____

_____

Describe the accident chain, how can it be avoided: _____

_____

_____

What is "get-there-itis": _____

_____

Who is ultimately responsible for the safety of flight during all solo flights: _____

What is the most important decision a pilot can make before every flight: _____