

# PRE-SOLO WRITTEN EXAM

## STUDY GUIDE

2023 REVISION

### SECTION I: AIRCRAFT SYSTEMS AND LIMITATIONS

1. Engine manufacturer
2. Engine type
3. Fuel type and color and why
4. Fuel quantity
5. Oil type and quantity minimums and maximums  
(1 through 5, PA-28-180D Student Pilot POH, page 2)
6. All V-Speeds, their definition, and numerical values  
(PA-28-180D Checklist, website resources page)
7. Label photos of the exterior components, antennas, etc  
(From your notes, "Rookie Day" lesson one PowerPoint presentation)
8. Weights and capacities  
(PA-28-180D Student Pilot POH, page 2)

Know the following information about general aircraft systems

1. four stages of the internal combustion engine  
(SkySchool of East Texas Private Pilot Handbook, Chapter 2)
2. carburetor heat, when to use it and how it functions  
(SkySchool of East Texas Private Pilot Handbook, Chapter 2)
3. Carburetor ice, when the risks are increased  
(SkySchool of East Texas Private Pilot Handbook, Chapter 2)
4. Mixture control function, what does it do? Why do we need it? Etc.  
(SkySchool of East Texas Private Pilot Handbook, Chapter 2)
5. Pitot static instrument system \*draw this system from memory\*  
(SkySchool of East Texas Private Pilot Handbook, Chapter 2)  
(From your notes, ground school session 2, Aircraft Systems)
2. Gyroscopic instrument system \*draw this system from memory\*  
(SkySchool of East Texas Private Pilot Handbook, Chapter 2)  
(From your notes, ground school session 2, Aircraft Systems)

Know how the flight instruments actually function

(SkySchool of East Texas Private Pilot Handbook, Chapter 3)

Know the control surfaces of the aircraft and the various components of the aircraft

(SkySchool of East Texas Private Pilot Handbook, Chapter 2)

## **SECTION II: BASIC AERODYNAMICS**

Airfoil – know the anatomy of the airfoil.

Understand ground effect and what it causes where its encountered etc

Stalls – demonstrate understanding of what causes them

Three axis of flight

Wake turbulence avoidance

**(SkySchool of East Texas Private Pilot Handbook, Chapter 4)**

**(From your notes, ground school session 4, Basic Aerodynamics)**

Density altitude – what is it? Where is it most likely encountered? What are its effects? Know how to use the density altitude chart.

**(SkySchool of East Texas Private Pilot Handbook, Chapter 13)**

**(From your notes, ground school session 15, Aircraft Performance)**

## **SECTION III: THE FLIGHT ENVIRONMENT**

Obstacle clearance requirements for a congested area, uncongested area

Cloud clearance and visibility requirements for class B, C, D, E, G airspace

Identify class of airspace as printed on a sectional chart

PAPI and VASI indications

Communication requirements for Class B, C and D airspace

**(SkySchool of East Texas Private Pilot Handbook, Chapter 5)**

**(From your notes, ground school session 6, The Flight Environment)**

Memorize the required instruments or equipment for day VFR acronym

“TOMATOSAFLAME” Acronym

**(SkySchool of East Texas Private Pilot Handbook, Chapter 3)**

**(From your notes, ground school session 3, The Flight Instruments)**

Memorize the required instruments and equipment for night flight VFR

“FLAPS” Acronym

Memorize the required maintenance and inspections

“AVIATE” Acronym

**(SkySchool of East Texas Private Pilot Handbook, Chapter 3)**

**(From your notes, ground school session 3, The Flight Instruments)**

Memorize the standard transponder codes

1200 – VFR aircraft

7600 – Communications failure

7700 – Emergency

7500 – Hijacked aircraft

**(SkySchool of East Texas Private Pilot Handbook, Chapter 9)  
(From your notes, ground school session 10, Communications)**

Memorize the required documents aboard the aircraft

“AROW” Documents

**(SkySchool of East Texas Private Pilot Handbook, Chapter 3)**

Your home airport frequencies, runway lengths, widths, elevations, traffic patterns

**(Chart Supplement SC-2)**

**(Airnav.com)**

Privileges and limitations of a student pilot

**(FAR 61.89)**