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Private Pilot
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AVIATION SUPPLIES & ACADEMICS, INC.
NEWCASTLE, WASHINGTON

Private Pilot Test Prep
2025–2026 Edition

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Visit **asa2fly.com/TPP** for additional information and resources related to this book.

Sample Federal Aviation Administration (FAA) questions herein contain information as of: September 2024. Stay informed of changes since the book was printed: **asa2fly.com/testupdate**

None of the material in this publication supersedes any documents, procedures or regulations issued by the Federal Aviation Administration.

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Aviation Supplies & Academics, Inc. (ASA) is an industry leader in the development and sale of aviation supplies and publications for pilots, flight instructors, aviation mechanics, aircraft dispatchers, air traffic controllers, and drone operators. ASA has provided trusted training materials to millions of aviators resulting in successful airman certification for over 80 years. Visit **asa2fly.com** to learn more.

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Updates and Practice Tests

Free Test Updates for the Life Cycle of Test Prep Books

The FAA modifies tests as needed throughout the year. ASA keeps abreast of changes to the tests and posts free Test Updates on the ASA website. Before taking your test, be certain you have the most current information by visiting the ASA Test Updates webpage: **asa2fly.com/testupdate**. Additionally, sign up for free email notifications, which are sent when new Test Updates are available.

We Invite Your Feedback

After you take your FAA exam, let us know how you did. Were you prepared? Did ASA's products meet your needs and exceed your expectations? We want to continue to improve these products to ensure applicants are prepared and become safe aviators. Send your feedback to: **cfi@asa2fly.com**.

Introduction

Welcome to the Aviation Supplies & Academics, Inc., (ASA) Test Prep Series. This series has been helping pilots prepare for the FAA Knowledge Tests for more than 60 years with great success. We are confident that with proper use of this book you will score very well on your Private, Sport, or Recreational Pilot certificate test.

Begin your studies with a classroom or home-study ground school course, which will involve reading a comprehensive textbook. Visit the Reader Resources for this Test Prep (**asa2fly.com/TPP**) and become familiar with the FAA guidance materials available for this certification exam. Then use this Test Prep to prepare for your exam: read the question, select your choice for the correct answer, and then read the explanation. Use the references that conclude each explanation to identify additional resources for further study of a subject. Upon completion of your studies, take practice tests at **prepware.com** (see inside the front cover for your activation code).

The questions in this book have been arranged into chapters based on subject matter to promote better understanding, aid recall, and provide a more efficient study guide. Place emphasis on questions most likely to be included in your test (identified by the aircraft category above each question). For example, a pilot preparing for the Private Airplane test would focus on the questions marked "ALL" and "AIR," and a pilot preparing for the Private Helicopter test would focus on the questions marked "ALL" and "RTC." See the Description of the Tests section for more on planning your studies.

Prior to taking an FAA Airman Knowledge Test, all applicants must establish an FAA Tracking Number (FTN) by creating a profile in the Integrated Airman Certification and Rating Application (IACRA) system at **iacra.faa.gov**. Then visit **faa.psiexams.com** to register for your exam and take FAA-created practice tests to become familiar with the computer testing platform.

It is important to answer every question assigned on your FAA Knowledge Test. If in their ongoing review, the FAA decides a question has no correct answer, is no longer applicable, or is otherwise defective, your answer will be marked correct no matter which one you chose. However, you will not be given the automatic credit if you have not marked an answer. Unlike some other exams you may have taken, there is no penalty for guessing in this instance.

The FAA exams are "closed tests" which means the exact database of questions is not available to the public. The question and answer choices in this book are based on our extensive history and experience with the FAA testing and airman certification process. You might see similarly worded questions on your official FAA exam, or answer stems might be rearranged from the order you see in this book. Therefore, be sure to fully understand the intent of each question and corresponding answer while studying, rather than memorizing the letter associated with the correct response. You may be asked a question that has unfamiliar wording; studying and understanding the information in this book and the associated references will give you the tools to answer question variations with confidence.

If your study leads you to question an answer choice, we recommend you seek the assistance of a local instructor. We welcome your questions, recommendations, and concerns—send them to:

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The FAA appreciates testing experience feedback. You can contact them at:

Federal Aviation Administration
Training & Certification Group,
Testing Standards Section
PO Box 25082
Oklahoma City, OK 73125
Email: TestingStandardsComments@faa.gov

Description of the Tests

The FAA Knowledge Exam is an objective, multiple choice test. Each question can be answered by one of the three choices. Each test question is independent of the others—a correct response to one question does not depend on the correct response to another. You must score at least 70 percent to pass the test.

As stated in 14 CFR §61.63, an applicant does not need to take an additional knowledge test if they already hold an airplane, rotorcraft, powered-lift, weight-shift control aircraft, powered parachute, or airship rating at that pilot certificate level. For example, an applicant transitioning from gliders to airplanes will need to take the test. An applicant transitioning from weight-shift or powered parachute to airplane will need to take the test. But an applicant transitioning from airplanes to gliders, from airplanes to helicopters, or from airplanes to weight-shift or powered parachute, will *not* be required to take the test.

The table below lists the number of questions and allotted time for each test. Each question in this book is preceded by a category. Use these categories to study the content that may appear on your test. For example, if you are seeking a Private Pilot—Airplane Certificate, study questions marked ALL and AIR; if you are seeking a Recreational Pilot—Helicopter Certificate, study questions marked ALL, RTC, and REC. The content of questions marked ALL could appear on *any* Private Pilot Certificate exam.

Test Code	Test Name	Test Prep Study	Number of Questions	Min. Age	Allotted Time (hrs)
RPA	Recreational Pilot—Airplane	ALL, AIR, REC	50	15	2.0
RPH	Recreational Pilot—Helicopter	ALL, RTC, REC	50	15	2.0
RPG	Recreational Pilot—Gyroplane	ALL, RTC, REC	50	15	2.0
PAR	Private Pilot—Airplane	ALL, AIR	60	15	2.0
PRH	Private Pilot—Helicopter	ALL, RTC	60	15	2.5
PRG	Private Pilot—Gyroplane	ALL, RTC	60	15	2.5
PGL	Private Pilot—Glider	ALL, GLI	60	14	2.5
PBH	Private Pilot—Balloon–Hot Air	ALL, LTA	60	14	2.5
PBG	Private Pilot—Balloon–Gas	ALL, LTA	60	14	2.5
PLA	Private Pilot—Airship	ALL, LTA	60	15	2.5
PPP	Private Pilot Powered Parachute	ALL, PPC	60	15	2.5
PWS	Private Pilot Weight-Shift Control	ALL, WSC	60	15	2.5
PAT	Private Pilot Airplane/ Recreational Pilot—Transition	ALL, AIR	30	15	1.5
PGT	Private Pilot Gyroplane/ Recreational Pilot—Transition	ALL, RTC	30	15	1.5
PHT	Private Pilot Helicopter/ Recreational Pilot—Transition	ALL, RTC	30	15	1.5
PCP	Private Pilot Airplane Canadian Conversion*	ALL, AIR	40	16	2.0
PCH	Private Pilot Helicopter Canadian Conversion*	ALL, RTC	40	16	2.0
PEP	Private Pilot Airplane EU Part–FCL Conversion*	ALL, AIR	40	16	2.0

SPA	Sport Pilot Airplane	SPO, LSA	40	15	2.0
SPB	Sport Pilot Lighter-Than-Air (Balloon)	SPO, LSL	40	15	2.0
SPI	Sport Pilot Glider	SPO, LSG	40	15	2.0
SPL	Sport Pilot Lighter-Than-Air (Airship)	SPO, LSL	40	15	2.0
SPP	Sport Pilot Powered Parachute	SPO, LSP	40	15	2.0
SPW	Sport Pilot Weight-Shift Control	SPO, LSW	40	15	2.0
SPY	Sport Pilot Gyroplane	SPO, LSR	40	15	2.0

* This test focuses on U.S. regulations, airspace, ATC services and practices, communications, and emergency procedures.

Knowledge Test Registration

The FAA testing provider authorizes hundreds of test center locations that offer a full range of airman knowledge tests. For information on authorized testing centers and to register for the knowledge test, visit **faa.psiexams.com**.

When you contact a knowledge testing center, be prepared to select a test date and make payment. You may register for test(s) several weeks in advance online or by phone, and you may cancel in accordance with the testing center's cancellation policy.

Regardless of your registration method, you will need an FAA Tracking Number (FTN) prior to registering for the FAA Airman Knowledge Test. This FTN will follow you throughout your aviation career. You will obtain your FTN as part of the test registration process, by creating a profile in the Integrated Airman Certificate and Rating Application (IACRA) system at **iacra.faa.gov/IACRA**. This FTN will be printed on your Airman Knowledge Test Report (AKTR).

The test registration process includes collection of this information: name, FTN, physical address, date of birth, email address, photo identification, phone number, test authorization (credentials of the individual such as an instructor endorsement), and previous number of test attempts.

Step 1: Create a profile using the IACRA system and login to obtain your FTN.
Step 2: Register for your knowledge test with PSI by phone or online.

For more information, contact:
PSI Services LLC
844-704-1487 or examschedule@psionline.com
faa.psiexams.com

Knowledge Test Eligibility

When you take your FAA Knowledge Test you will be required to show proper identification that includes your photograph, signature, and home address, as well one of the following:

- A certificate of graduation from a pilot training course conducted by an FAA-approved pilot school, or a statement of accomplishment from the school certifying the satisfactory completion of the ground-school portion of such a course.
- A written statement from an FAA-certified ground or flight instructor, certifying that you have satisfactorily completed the required ground instruction. (See the examples below.)
- Logbook entries by an FAA-certified ground or flight instructor, certifying satisfactory completion of the required ground instruction.
- A certificate of graduation or statement of accomplishment from a ground school course conducted by an agency such as a high school, college, adult education program, the Civil Air Patrol, or a Reserve Officers' Training Corp (ROTC) Flight Training Program.
- A certificate of graduation from a home-study course developed by the aeronautical enterprise providing the study material.

Complete two Prepware practice tests with scores of 80% or higher to get your knowledge test endorsement for any pilot rating directly from ASA. Visit **asa2fly.com/prepware** or **prepware.com** for more details.

If you are taking the test again, you must present the unsatisfactory AKTR (if failed) or register after 30 days (if seeking a higher passing score). See Retesting Procedures for more details.

If a flight or ground instructor is providing your endorsement, they may adapt one of the following statements:

Private or Recreational Endorsement

I certify that *(First name, MI, Last name)* _____ has received the required training in accordance with (Private 14 CFR §61.105 *or* Recreational §61.97). I have determined he/she is prepared for the *(Test name; e.g., Private Pilot – Airplane)* _____ _____ knowledge test.

Signed _____ Date _____

CFI Number _____ Expires _____

Sport Endorsement

I certify that *(First name, MI, Last name)* _____ has received the required aeronautical knowledge training of §61.309. I have determined he/she is prepared for the Sport Pilot *(category)* _____ knowledge test.

Signed _____ Date _____

CFI Number _____ Expires _____

Acceptable Materials

The applicant may use test aids and materials within the guidelines listed below during the test, if actual test questions or answers are not revealed.

Acceptable Materials	Unacceptable Materials	Notes
Supplement book provided by proctor.	Written materials that are handwritten, printed, or electronic.	Testing centers may provide calculators and/or deny the use of personal calculators.
All models of aviation-oriented calculators or small electronic calculators that perform only arithmetic functions.	Electronic calculators incorporating permanent or continuous type memory circuits without erasure capability.	Test proctor may prohibit the use of your calculator if he or she is unable to determine the calculator's erasure capability.
Calculators with simple programmable memories, which allow addition to, subtraction from, or retrieval of one number from the memory; or simple functions, such as square root and percentages.	Magnetic cards, magnetic tapes, modules, computer chips, or any other device upon which pre-written programs or information related to the test can be stored and retrieved.	Printouts of data must be surrendered at the completion of the test if the calculator incorporates this design feature.
Scales, straight-edges, protractors, plotters, navigation computers, blank log sheets, holding pattern entry aids, and electronic or mechanical calculators that are directly related to the test.	Dictionaries.	Before, and upon completion of the test, while in the presence of the test proctor, actuate the ON/OFF switch or RESET button, and perform any other function that ensures erasure of any data stored in memory circuits.
Manufacturer's permanently inscribed instructions on the front and back of such aids, such as formulas, conversions, regulations, signals, weather data, holding pattern diagrams, frequencies, weight and balance formulas, and ATC procedures.	Any booklet or manual containing instructions related to use of test aids.	Test proctor makes the final determination regarding aids, reference materials, and test materials.

Testing Procedures for Applicants Requesting Special Accommodations

If you are an applicant with a learning or reading disability, you may request approval from the local FAA office to take an airman knowledge test, using the special accommodations procedures outlined in the most current version of FAA Order 8080.6 Conduct of Airman Knowledge Tests.

Prior to approval of any option, the FAA Aviation Safety Inspector must advise you of the regulatory certification requirement of being able to read, write, speak, and understand the English language.

Test Reports

Your test will be graded immediately upon completion and your score will display on the computer screen. You will receive your Airman Knowledge Test Report (AKTR), which will state your score. See sample AKTR on the next page.

Visit **faa.psiexams.com** to request a duplicate or replacement AKTR due to loss or destruction.

Airman Knowledge Test Reports are valid for 24 calendar months. If the AKTR expires before completion of the practical test, you must retake the knowledge test.

Your AKTR lists the ACS code (if an ACS is available for the certificate and rating specific to the test) or Learning Statement Code (LSC) (if a Practical Test Standard is in effect for the certificate and rating specific to the test) for questions answered incorrectly. The total number of ACSs/LSCs shown on the AKTR is not necessarily an indication of the total number of questions answered incorrectly. Study these knowledge areas to improve your understanding of the subject matter. See Cross-Reference B in the back of this book for a listing of ACSs and LSCs and their associated questions.

Your instructor is required to provide instruction on each of the knowledge areas listed on your AKTR and to complete an endorsement of this instruction. You must present this to the examiner prior to taking the practical test. During the oral portion of the practical test, the examiner is required to evaluate the noted areas of deficiency.

Retesting Procedures

Applicants retesting ***after failure*** are required to submit the applicable AKTR indicating failure, along with an endorsement (on the test report) from an authorized instructor, who gave the applicant the additional training, certifying the applicant is competent to pass the test. The original failed AKTR and retest endorsement presented as authorization shall be retained by the proctor and attached to the applicable sign-in/out log. The latest test taken will reflect the official score.

Applicants retesting ***in an attempt to achieve a higher passing score*** may retake the same test for a better grade after 30 days. The latest test taken will reflect the official score. Applicants are required to submit the original applicable AKTR indicating previous passing score to the testing center prior to testing. Testing center personnel must collect and destroy this report prior to issuing the new test report.

Cheating or Other Unauthorized Conduct

Computer testing centers must follow strict security procedures to avoid test compromise. These procedures are established by the FAA and are covered in FAA Order 8080.6 Conduct of Airman Knowledge Tests. The FAA has directed testing centers to terminate a test at any time a test proctor suspects a cheating incident has occurred. An FAA investigation will then be conducted. If the investigation determines that cheating or unauthorized conduct has occurred, then any airman certificate or rating that you hold may be revoked, and you will be prohibited for one year from applying for or taking any test for a certificate or rating under 14 CFR Part 61.

U.S. DEPARTMENT OF TRANSPORTATION
Federal Aviation Administration
Airman Knowledge Test Report

NAME: TAYLOR SMITH

FAA TRACKING NUMBER (FTN): C1234567 **EXAM ID:** 98765432109876543

EXAM: Private Pilot – Airplane (PAR)

EXAM DATE: 09/15/2024 **EXAM SITE:** ABC12345

SCORE: 88% **GRADE:** Pass **TAKE:** 1

The Airman Certification Standards (ACS) codes listed below represent incorrectly answered questions. These ACS codes and their associated Areas of Operation/Tasks/Elements may be found in the appropriate ACS document at http://www.faa.gov/training_testing/testing/acs.

A single code may represent more than one incorrect response.

PA.I.C.K3a PA.I.C.K3k PA.I.F.K1 PA.III.A.K1 PA.III.A.K8 PA.VI.A.K2 PA.VI.A.K5c

EXPIRATION DATE: 09/30/2026

DO NOT LOSE THIS REPORT

AUTHORIZED INSTRUCTOR'S STATEMENT: (if applicable)

On _____ (date) I gave the above named applicant _____ hours of additional instruction, covering each subject area shown to be deficient, and consider the applicant competent to pass the knowledge test.

Name _____

Cert. No. _____ *(print clearly)*

Type of instructor certificate _____

Signature _____

FRAUDULENT ALTERATION OF THIS FORM BY ANY PERSON IS A BASIS FOR SUSPENSION OR REVOCATION OF ANY CERTIFICATES OR RATINGS HELD BY THAT PERSON.
ISSUED BY: PSI Services LLC
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Sample Airman Knowledge Test Report

Test-Taking Tips

Prior to launching the actual test, the test proctor's testing software will provide you with an opportunity to practice navigating through the test. This practice (or tutorial) session may include a "sample" question(s). These sample questions have no relation to the content of the test, but are meant to familiarize you with the look and feel of the system screens, including selecting an answer, marking a question for later review, time remaining for the test, and other features of the testing software.

Follow these time-proven tips, which will help you develop a skillful, smooth approach to test-taking:

- Visit **faa.psiexams.com** to take a small sample test to become familiar with the latest PSI exam interface you will see on your actual FAA knowledge test.
- Be careful to fully understand the intent of each question and corresponding answer while studying, rather than memorizing the A, B, C answer choice—answer stems may appear in a different order than you studied and have some wording differences.
- Remember to bring a sign-off from an instructor, photo I.D., the testing fee, calculator, flight computer (ASA's E6-B or CX-3 Flight Computer), plotter, magnifying glass, and a sharp pointer, such as a safety pin.
- Your first action when you sit down should be to write any formulas and information you can remember from your study on the scratch paper they will provide. Remember, some of the formulas may be on your E6-B.
- Read each question carefully before looking at the possible answers. You should clearly understand the problem before attempting to solve it.
- After formulating an answer, determine which answer choice corresponds the closest with your answer. The answer chosen should completely resolve the problem.
- From the answer choices given, it may appear that there is more than one possible answer. However, there is only one answer that is correct and complete. The other answers are either incomplete, erroneous, or represent popular misconceptions.
- Answer each question in accordance with the latest regulations and guidance publications.
- If a certain question is difficult for you, tag it for review and proceed to the other questions. After you answer the less difficult questions, return to those which you tagged and answer them. Be sure to untag these questions once you have answered them. The review marking procedure will be explained to you prior to starting the test. Although the computer should alert you to unanswered questions, make sure every question has an answer recorded. This will allow you to use the available time to your maximum advantage.
- Perform each math calculation twice to confirm your answer. If adding or subtracting a column of numbers, reverse your direction the second time to reduce the possibility of error.
- When solving a calculation problem, select the answer nearest to your solution.
- Remember that information is provided in the Legends and Figures contained within the Airman Knowledge Testing Supplement (FAA-CT-8080 document) you'll be using during the test.
- Remember to answer every question, even the ones with no completely correct answer, to ensure the FAA gives you credit for a bad question.
- Take your time and be thorough but relaxed. Take a minute off every half-hour or so to relax your brain and body. Stay hydrated.
- Your test will be graded immediately upon completion.

Pilot Certificate Eligibility Requirements

If you are pursuing a **Student Pilot Certificate**, you should review §61.83 "Applicability and Eligibility Requirements: General," for additional detailed information pertaining to eligibility.

If you are pursuing a **Sport Pilot Certificate**, you should review Part 61 Subpart J for eligibility and operating limitation information.

If you are pursuing a **Recreational Pilot Certificate**, you should review §61.96 "Applicability and Eligibility Requirements: General," for additional detailed information pertaining to eligibility.

If you are pursuing a **Private Pilot Certificate**, you should review §61.103 "Applicability and Eligibility Requirements: General," for additional detailed information pertaining to eligibility.

If you are pursuing a **Recreational Pilot** or **Private Pilot Certificate**, you should also review §61.23 "Medical Certificates: Requirement and Duration" and §61.35 "Knowledge Test: Prerequisites and Passing Grades." Recreational and private pilot tests are comprehensive because they must test your knowledge in many subject areas. If you are pursuing a Recreational Pilot Certificate or added rating, you should closely examine and understand §61.97 "Aeronautical Knowledge" for the applicable knowledge areas. If you are pursuing a Private Pilot Certificate or added rating, you should closely examine and understand §61.105 "Aeronautical Knowledge" for the applicable knowledge areas.

Always check the current Part 61 for pilot certificate requirements. To be eligible for a Private Pilot certificate with an airplane, helicopter, or glider rating a person must:

1. Be at least 17 years old (16 for a glider or balloon rating).
2. Be able to read, speak, write, and understand English or have a limitation placed on the certificate.
3. Have at least a current Third Class Medical Certificate or a driver's license and compliance with Part 68 and §61.23.
4. Hold a U.S. Student Pilot, Sport Pilot, or Recreational Pilot Certificate.
5. Score at least 70 percent on the required FAA Knowledge Test on the appropriate subjects.
6. Pass an oral exam and flight check on the subjects and maneuvers outlined in the Private Pilot Airman Certification Standards or Practical Test Standards (FAA-S-ACS-6, FAA-S-ACS-15, or FAA-S-8081-3).
7. For an airplane or helicopter rating, have a total of 40 hours of instruction (for Part 61 programs) and solo flight time which must include the following:
   a. 20 hours of flight instruction, including at least—
      i. 3 hours cross-country,
      ii. 3 hours at night including 10 takeoffs and landings and one cross-country flight of over 100 nautical miles (NM) total distance for airplanes (50 NM for helicopters),
      iii. 3 hours of instrument flight training in a single-engine airplane for the airplane rating, and
      iv. 3 hours in an airplane or helicopter within the last 60 days in preparation for the flight test.
   b. 10 hours of solo flight time in airplanes or helicopters, including at least—
      i. 10 hours in airplanes or helicopters;
      ii. 5 hours cross-country in airplanes, each flight with a landing more than 50 NM from the point of departure and one flight of at least 150 NM with 3 landings, one of which must be least 50 NM from the departure point;
      iii. Or 3 hours of cross-country in helicopters with landings at three points at least 25 miles from each other and one cross-country flight of at least 75 NM total distance, with landings at a minimum of three points, and one segment of the flight being a straight-line distance of at least 25 NM between the takeoff and landing locations; and

iv. Three takeoffs and landings to a full stop at an airport with an operating control tower, each landing separated by an enroute phase of flight (and involving a flight in the traffic pattern in a helicopter).

8. For a glider rating, have at least one of the following:
   a. If the applicant has not logged at least 40 hours of flight time as a pilot in a heavier-than-air aircraft: at least 10 hours of flight training in a glider, and 20 training flights performed on the appropriate areas, including—
      i. 2 hours of solo flight in gliders in the areas of operation that apply to gliders, with not less than 10 launches and landings being performed; and
      ii. Three training flights in a glider in preparation for the practical test within the 60-day period preceding the practical test.
   b. If the applicant has logged at least 40 hours of flight time in heavier-than-air aircraft: at least 3 hours of flight training in a glider, and 10 training flights performed on the appropriate areas, including—
      i. 10 solo flights in gliders on the areas of operation that apply to gliders, and
      ii. Three training flights in preparation for the practical test within the 60-day waiting period preceding the test.
9. For a lighter-than-air rating, have at least one of the following:
   a. For an airship rating:
      i. 25 hours of flight training in airships, which consists of at least:
         • 3 hours of cross-country flight training in an airship;
         • 3 hours of night flight training in an airship that includes:
            — A cross-country flight of over 25 NM total distance; and
            — 5 takeoffs and 5 landings to a full stop (with each landing involving a flight in the traffic pattern) at an airport.
      ii. 3 hours of instrument flight training in an airship;
      iii. 3 hours of flight training in an airship in preparation for the practical test within the 60 days preceding the date of the test; and
      iv. 5 hours performing the duties of PIC in an airship with an authorized instructor.
   b. For a balloon rating, at least 10 hours of flight training that includes at least 6 training flights with an authorized instructor, that includes—
      i. If the training is in a gas balloon, at least 2 flights of 2 hours each that consists of—
         • At least one training flight with an authorized instructor within 60 days prior to application for the rating on the areas of operation for a gas balloon;
         • At least one flight performing the duties of pilot in command in a gas balloon with an authorized instructor; and
         • At least one flight involving a controlled ascent to 3,000 feet above the launch site.
      ii. If the training is in a balloon with an airborne heater, at least—
         • Two 1-hour flights within 60 days prior to application for the rating on the areas of operation appropriate to a balloon with an airborne heater;
         • One solo flight in a balloon with an airborne heater; and
         • At least one flight involving a controlled ascent to 2,000 feet above the launch site.

10. For a powered parachute rating, have at least 25 hours of flight time in a powered parachute that includes at least 10 hours of flight training with an authorized instructor, including 30 takeoffs and landings, and 10 hours of solo flight training, that includes—
    a. 1 hour of cross-country flight with a landing at an airport at least 25 NM from the airport of departure;
    b. 3 hours of night flight training in a powered parachute that includes 10 takeoffs and landings (with each landing involving a flight in the traffic pattern) at an airport;
    c. 3 hours of flight training within the last 60 days in preparation for the practical test in a powered parachute; and
    d. 3 hours of solo flight time in a powered parachute, consisting of at least—
        i. One solo cross-country flight with a landing at an airport at least 25 NM from the departure airport; and
        ii. 20 solo takeoffs and landings to a full stop (with each landing involving a flight in a traffic pattern) at an airport, with at least 3 takeoffs and landings at an airport with an operating control tower.
11. For a weight-shift control aircraft rating, have at least 40 hours of flight time that includes at least 20 hours of flight training with an authorized instructor and 10 hours of solo flight training that includes—
    a. 3 hours of cross-country flight training in a weight-shift control aircraft;
    b. 3 hours of night flight training in a weight-shift control aircraft that includes—
        i. One cross-country flight over 75 NM total distance; and
        ii. 10 takeoffs and landings (with each landing involving a flight in the traffic pattern) at an airport;
    c. 3 hours of flight training within the last 60 days in preparation for the practical test in a weight-shift control aircraft, and
    d. 10 hours of solo flight time in a weight-shift control aircraft, consisting of at least—
        i. 5 hours of solo cross-country time;
        ii. One solo cross-country flight over 100 NM total distance, with landings at a minimum of three points, and one segment of the flight being a straight line distance of at least 50 NM between takeoff and landing locations; and
        iii. Three takeoffs and landings (with each landing involving a flight in the traffic pattern) at an airport with an operating control tower.

Always check the current Part 61 for pilot certificate requirements. To be eligible for a Sport Pilot Certificate a person must:

1. Be at least 17 years old (16 if you are applying to operate a glider or balloon).
2. Be able to read, speak, write, and understand English or have a limitation placed on the certificate.
3. Score at least 70 percent on the required FAA Knowledge Test.
4. Pass a practical test on the subjects and maneuvers outlined in the Sport Pilot Practical Test Standards (FAA-S-8081-29, FAA-S-8081-30, FAA-S-8081-31).
5. See §61.329 for the special provisions for obtaining a Sport Pilot certificate as a registered ultralight pilot with an FAA-recognized ultralight organization.
6. The table on the next page explains the aeronautical experience you must have to apply for a Sport Pilot Certificate.

If you are applying for a sport pilot certificate with…	Then you must log at least…	Which must include at least…
(a) Airplane category and single-engine land or sea class privileges,	(1) 20 hours of flight time, including at least 15 hours of flight training from an authorized instructor in a single-engine airplane and at least 5 hours of solo flight training in the areas of operation listed in §61.311,	(i) 2 hours of cross-country flight training, (ii) 10 takeoffs and landings to a full stop (with each landing involving a flight in the traffic pattern) at an airport; (iii) One solo cross-country flight of at least 75 nautical miles total distance, with a full-stop landing at a minimum of two points and one segment of the flight consisting of a straight-line distance of at least 25 nautical miles between the takeoff and landing locations, and (iv) 2 hours of flight training with an authorized instructor on those areas of operation specified in §61.311 in preparation for the practical test within the preceding 2 calendar months from the month of the test.
(b) Glider category privileges, and you have not logged at least 20 hours of flight time in a heavier-than-air aircraft,	(1) 10 hours of flight time in a glider, including 10 flights in a glider receiving flight training from an authorized instructor and at least 2 hours of solo flight training in the areas of operation listed in §61.311,	(i) Five solo launches and landings, and (ii) at least 3 training flights with an authorized instructor on those areas of operation specified in §61.311 in preparation for the practical test within the preceding 2 calendar months from the month of the test.
(c) Glider category privileges, and you have logged 20 hours flight time in a heavier-than-air aircraft,	(1) 3 hours of flight time in a glider, including five flights in a glider while receiving flight training from an authorized instructor and at least 1 hour of solo flight training in the areas of operation listed in §61.311,	(i) Three solo launches and landings, and (ii) at least 3 training flights with an authorized instructor on those areas of operation specified in §61.311 in preparation for the practical test within the preceding 2 calendar months from the month of the test.
(d) Rotorcraft category and gyroplane class privileges,	(1) 20 hours of flight time, including 15 hours of flight training from an authorized instructor in a gyroplane and at least 5 hours of solo flight training in the areas of operation listed in §61.311,	(i) 2 hours of cross-country flight training, (ii) 10 takeoffs and landings to a full stop (with each landing involving a flight in the traffic pattern) at an airport, (iii) One solo cross-country flight of at least 50 nautical miles total distance, with a full-stop landing at a minimum of two points, and one segment of the flight consisting of a straight-line distance of at least 25 nautical miles between the takeoff and landing locations, and (iv) 2 hours of flight training with an authorized instructor on those areas of operation specified in §61.311 in preparation for the practical test within the preceding 2 calendar months from the month of the test.
(e) Lighter-than-air category and airship class privileges,	(1) 20 hours of flight time, including 15 hours of flight training from an authorized instructor in an airship and at least 3 hours performing the duties of pilot in command in an airship with an authorized instructor in the areas of operation listed in §61.311,	(i) 2 hours of cross-country flight training, (ii) Three takeoffs and landings to a full stop (with each landing involving a flight in the traffic pattern) at an airport, (iii) One cross-country flight of at least 25 nautical miles between the takeoff and landing locations, and (iv) 2 hours of flight training with an authorized instructor on those areas of operation specified in §61.311 in preparation for the practical test within the preceding 2 calendar months from the month of the test.
(f) Lighter-than-air category and balloon class privileges,	(1) 7 hours of flight time in a balloon, including three flights with an authorized instructor and one flight performing the duties of pilot in command in a balloon with an authorized instructor in the areas of operation listed in §61.311,	(i) 2 hours of cross-country flight training and (ii) 1 hour of flight training with an authorized instructor on those areas of operation specified in §61.311 in preparation for the practical test within the preceding 2 calendar months from the month of the test.
(g) Powered parachute category land or sea class privileges,	(1) 12 hours of flight time in a powered parachute, including 10 hours of flight training from an authorized instructor in a powered parachute, and at least 2 hours of solo flight training in the areas of operation listed in §61.311,	(i) 1 hour of cross-country flight training, (ii) 20 takeoffs and landings to a full stop in a powered parachute with each landing involving flight in the traffic pattern at an airport; (iii) 10 solo takeoffs and landings to a full stop (with each landing involving a flight in the traffic pattern) at an airport, (iv) One solo flight with a landing at a different airport and one segment of the flight consisting of a straight-line distance of at least 10 nautical miles between takeoff and landing locations, and (v) 1 hour of flight training with an authorized instructor on those areas of operation specified in §61.311 in preparation for the practical test within the preceding 2 calendar months from the month of the test.
(h) Weight-shift-control aircraft category land or sea class privileges,	(1) 20 hours of flight time, including 15 hours of flight training from an authorized instructor in a weight-shift-control aircraft and at least 5 hours of solo flight training in the areas of operation listed in §61.311,	(i) 2 hours of cross-country flight training; (ii) 10 takeoffs and landings to a full stop (with each landing involving a flight in the traffic pattern) at an airport, (iii) One solo cross-country flight of at least 50 nautical miles total distance, with a full-stop landing at a minimum of two points, and one segment of the flight consisting of a straight-line distance of at least 25 nautical miles between takeoff and landing locations, and (iv) 2 hours of flight training with an authorized instructor on those areas of operation specified in §61.311 in preparation for the practical test within the preceding 2 calendar months from the month of the test.

Acronyms

For reference, acronyms appearing in this book are defined below.

AC	Advisory Circular
ACS	Airman Certification Standard
AD	Airworthiness Directive
ADM	aeronautical decision making
ADS-B	Automatic Dependent Surveillance–Broadcast
AFM	aircraft flight manual
AGL	above ground level
AIM	Aeronautical Information Manual
AIRMET	airman's meteorological information
AKTR	Airman Knowledge Test Report
ALD	available landing distance
AME	Aviation Medical Examiner
ARTCC	Air Route Traffic Control Center
ARTS	automated radar terminal system
ASOS	Automated Surface Observing System
ATIS	Automatic Terminal Information Service
ATC	air traffic control
ATCT	air traffic control tower
AWC	Aviation Weather Center
AWOS	Automated Surface Weather Observing System
CAMI	Civil Aeromedical Institute
CAS	calibrated airspeed
CC	compass course
CDI	course deviation indicator
CG	center of gravity
CL	center of lift
CMEC	comprehensive medical examination checklist
CONUS	continental United States
CTAF	Common Traffic Advisory Frequency
DA	density altitude
DAR	Designated Airworthiness Representative (FAA)
DEV	deviation (magnetic compass)
DME	distance measuring equipment
ELT	emergency locator transmitter
E-LSA	experimental light sport aircraft
FA	area forecast
FAR	Federal Aviation Regulations
FB	winds and temperatures aloft forecast
FDC	Flight Data Center
FL	flight level
FSDO	Flight Standards District Office
FSS	Flight Service Station
GFA	Graphical Forecast for Aviation
GPO	Government Printing Office
GPS	Global Positioning System
GS	ground speed
IA	inspection authorization
IAS	indicated airspeed
IFR	instrument flight rules
IMC	instrument meteorological conditions
KIAS	knots indicated airspeed
LAHSO	land and hold short operations
LTE	loss of tail rotor effectiveness
LSA	light sport aircraft
MC	magnetic course
METAR	aviation routine weather report
MH	magnetic heading
MOA	Military Operations Area
MSL	mean sea level
MTR	Military Training Route
NAS	National Airspace System
NAVAID	navigational aid
NM	nautical mile
NOTAM	Notice to Air Missions
NTSB	National Transportation Safety Board
OAT	outside air temperature
OBS	omni bearing selector
PAPI	precision approach path indicator
PIC	pilot-in-command
PIREP	pilot report
POH	pilot's operating handbook
RAIM	receiver autonomous integrity monitoring

RCO	remote communication outlet
RPM	revolutions per minute
SAA	Special Activity Airspace
SIGMET	significant meteorological information
S-LSA	special light sport aircraft
SM	statute mile
TAF	terminal aerodrome forecast
TAS	true airspeed
TC	true course
TFR	temporary flight restriction
TH	true heading
TRSA	terminal radar service area
UAT	Universal Access Transceiver
UTC	Coordinated Universal Time
VAR	magnetic variation
VASI	visual approach slope indicator
VFR	visual flight rules
VIP	video integrator processor (weather radar)
VOR	VHF Omnidirectional Range
VOT	VOR Test Facility
WCA	wind correction angle

Knowledge Exam References

The FAA references the following documents to write the FAA Knowledge Exam questions. You should be familiar with all of these as part of your ground school studies, which you should complete before starting test preparation.

FAA-H-8083-1 *Aircraft Weight and Balance Handbook*
FAA-H-8083-2 *Risk Management Handbook*
FAA-H-8083-3 *Airplane Flying Handbook*
FAA-H-8083-5 *Weight-Shift Control Aircraft Flying Handbook*
FAA-H-8083-11 *Balloon Flying Handbook*
FAA-H-8083-13 *Glider Flying Handbook*
FAA-H-8083-21 *Helicopter Flying Handbook*
FAA-H-8083-25 *Pilot's Handbook of Aeronautical Knowledge*
FAA-H-8083-28 *Aviation Weather Handbook*
FAA-H-8083-29 *Powered Parachute Flying Handbook*

FAA-S-ACS-6 *Private Pilot Airplane Airman Certification Standards*
FAA-S-ACS-15 *Private Pilot Helicopter Airman Certification Standards*
FAA-S-8081-3 *Recreational Pilot Practical Test Standards*
FAA-S-8081-29 & FAA-S-8081-31 *Sport Pilot Practical Test Standards*

Aeronautical Chart User's Guide

Chart Supplements U.S.
Sectional Aeronautical Chart (SAC)

Aeronautical Information Manual (AIM)
14 CFR Parts 1, 21, 39, 43, 48, 61, 68, 71, 89, 91, 107
49 CFR Part 830 (NTSB)
49 CFR Part 1554 (TSA)

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ASA Test Prep Layout

Sample FAA questions have been sorted into chapters according to subject matter. Within each chapter, similar questions are grouped together following introductory chapter text. Figures referenced in the chapter text are numbered with the appropriate chapter number, e.g., "Figure 1-1" is Chapter 1's first chapter text figure.

Some sample FAA questions refer to Figures or Legends immediately following the question number, e.g., "1201. (Refer to Figure 14.)." These are FAA Figures and Legends from the Airman Knowledge Testing Supplement (FAA-CT-8080-2H) that can be found at the back of this book. This supplement will be provided to you as a separate booklet when you take your FAA test.

Following each sample FAA test question is ASA's explanation in italics. The last line of the explanation contains a Learning Statement Code (LSC), for those tests referencing an FAA Practical Test Standard (PTS), or Airman Certification Standards (ACS) code, for those tests with an ACS, as well as a reference for further study. Some questions include an explanation for the incorrect answers for added clarity. When you encounter a difficult question, find the LSC or ACS code in Cross-Reference B, and then look for material relating to the subject description within the given reference(s). Refer to Cross-Reference B for more information on how to use LSCs or ACS codes for effective studying.

Answers to each question are found at the bottom of each page.

EXAMPLE:

Chapter text

Four aerodynamic forces are considered to be basic because they act upon an aircraft during all flight maneuvers. There is the downward-acting force called WEIGHT which must be overcome by the upward-acting force called LIFT, and there is the rearward-acting force called DRAG, which must be overcome by the forward-acting force called THRUST.

Category rating. This question may be found on tests for these ratings.*

ALL, SPO

3201. (Refer to Figure 14.) The four forces acting on an airplane in flight are

See the Airman Knowledge Testing Supplement at the back of the book.

A— lift, weight, thrust, and drag.
B— lift, weight, gravity, and thrust.
C— lift, gravity, power, and friction.

Question and answer choices

Lift, weight, thrust, and drag are the four basic aerodynamic forces acting on an aircraft in flight. (PLT242, PA.I.F.K3, PH.I.F.K4) — FAA-H-8083-25

Explanation

Code line. FAA LSC and ACS codes in parentheses, followed by references for further study.

Answer (B) is incorrect because the force of gravity is always the same number and reacts with the airplane's mass to produce a different weight for almost every airplane. Answer (C) is incorrect because weight is the final product of gravity, thrust is the final product of power, and drag is the final product of friction. Power, gravity, and friction are only parts of the aerodynamic forces of flight.

Incorrect answer explanation. Reasons why answer choices are *incorrect* explained here.

*** Note:** The FAA does *not* identify which questions are on the different ratings' tests. Unless the wording of a question is pertinent to only one rating category, it may be found on *any* of the tests.

ALL = All aircraft
AIR = Airplane
GLI = Glider
LTA = Lighter-Than-Air (applies to hot air balloon, gas balloon and airship)
REC = Recreational
RTC = Rotorcraft (applies to both helicopter and gyroplane)
PPC = Powered Parachute
WSC = Weight-Shift Control
SPO = Sport Pilot (all aircraft categories)
LSA = Sport Pilot Airplane
LSG = Sport Pilot Glider
LSL = Sport Pilot Lighter-Than-Air
LSP = Sport Pilot Powered Parachute
LSR = Sport Pilot Rotorcraft
LSW = Sport Pilot Weight-Shift-control

Chapter 4
Aircraft Performance

Density Altitude and Aircraft Performance

Aircraft performance charts show a pilot what can be expected of an airplane (rate of climb, takeoff roll, etc.) under stipulated conditions. Prediction of performance is based upon a sea level temperature of +15°C (+59°F) and atmospheric pressure of 29.92 "Hg (1013.2 mb). This combination of temperature and pressure is called a standard day. When the air is at a standard density, temperature and/or pressure deviations from standard will change the air density or the density altitude, which affects aircraft performance. Performance charts allow the pilot to predict how an aircraft will perform.

Relative humidity also affects density altitude, but is not considered when the performance charts are formulated. A combination of high temperature, high humidity, and high altitude result in a density altitude higher than the pressure altitude which, in turn, results in reduced aircraft performance.

Problem:

Using the Density Altitude Chart shown in FAA Figure 8, and the following conditions, determine the density altitude.

Conditions:

Altimeter setting 30.35
Airport temperature.....+25°F
Airport elevation ..... 3,894 feet

Solution:

1. Determine the applicable altitude correction for the altimeter setting of 30.35 "Hg. See FAA Figure 8. That setting is not shown on the chart, so it is necessary to interpolate between the correction factors shown for 30.30 "Hg and 30.40 "Hg. To interpolate, add the two factors and divide by 2:

   -348 + (-440) = -788

   -788 ÷ 2 = -394

   Since the result is a negative number, subtract that value from the given airport elevation:

   3,894 feet
   – 394 feet
   3,500 feet

2. Along the bottom of the chart, locate the given OAT (+25°F). From that point, proceed upward until intersecting the pressure altitude line that is equal to the corrected airport elevation (3,500 feet). From that point, proceed to the left and read the density altitude (2,000 feet).

   Note that high-density altitude reduces propeller efficiency as well as overall aircraft performance.

ALL, SPO

3289. If the outside air temperature (OAT) at a given altitude is warmer than standard, the density altitude is

A—equal to pressure altitude.
B—lower than pressure altitude.
C—higher than pressure altitude.

If the temperature is above standard, the density altitude will be higher than pressure altitude. (PLT206, PA.I.F.K2a, PH.I.F.K2a) — FAA-H-8083-25

ALL

3294. (Refer to Figure 8.) Determine the density altitude for these conditions:

Altimeter setting..... 29.25
Runway temperature .....+81°F
Airport elevation .....5,250 ft MSL

A—4,600 feet MSL.
B—5,877 feet MSL.
C—8,500 feet MSL.

Referencing FAA Figure 8, use the following steps:

1. *Since the altimeter setting that is given is not shown in FAA Figure 8, interpolation is necessary. Locate the settings immediately above and below the given value of 29.25 "Hg:*

Altimeter Setting	***Conversion Factor***
29.20	*673 feet*
29.30	*579 feet*

2. *Determine the difference between the two conversion factors:*

   673 – 579 = 94 feet

3. *Determine the amount of difference to be added to the 29.30 "Hg conversion factor:*

   94 × .5 = 47 feet

4. *Add the amount of difference to the amount shown for the 29.30 "Hg conversion factor:*

   579 + 47 = 626 feet

5. *Add the correction factor to the airport elevation to find pressure altitude:*

   5,250
   + 626
   5,876 feet MSL (pressure altitude)

6. *Determine the density altitude by entering the chart at +81°F; move upward to the 5,876 pressure altitude line; from the point of intersection, move to the left and read a density altitude of 8,500 feet.*

(PLT005, PA.I.F.K2a, PH.I.F.K2a) — FAA-H-8083-25

ALL

3295. (Refer to Figure 8.) Determine the pressure altitude at an airport that is 3,563 feet MSL with an altimeter setting of 29.96.

A—3,527 feet MSL.
B—3,556 feet MSL.
C—3,639 feet MSL.

Referencing FAA Figure 8, use the following steps:

1. *Since the altimeter setting that is given is not shown in FAA Figure 8, interpolation is necessary. Locate the settings immediately above and below the given value of 29.96 "Hg:*

Altimeter Setting	***Conversion Factor***
29.92	*0 feet*
30.00	*-73 feet*

2. *Determine the difference between the two conversion factors:*

   0 – 73 = -73 feet

   The setting 29.96 is halfway between the two values, so:

   -73 ÷ 2 = -36.5 feet

3. *Determine the amount of difference to be subtracted from the 30.00 "Hg conversion factor.*

4. *Subtract the correction factor from the airport elevation to find pressure altitude:*

   3,563.0
   – 36.5
   3,526.5 feet MSL (pressure altitude)

(PLT019, PA.I.F.K2a, PH.I.F.K2a) — FAA-H-8083-25

Answers

3289 [C] 3294 [C] 3295 [A]

ALL

3298. (Refer to Figure 8.) Determine the density altitude for these conditions:

Altimeter setting..... 30.35
Runway temperature .....+25°F
Airport elevation .....3,894 ft MSL

A—2,000 feet MSL.
B—2,900 feet MSL.
C—3,500 feet MSL.

Referencing FAA Figure 8, use the following steps:

1. *Since the altimeter setting that is given is not shown in FAA Figure 8, interpolation is necessary. Locate the settings immediately above and below the given value of 30.35 "Hg:*

Altimeter Setting	***Conversion Factor***
30.30	*-348 feet*
30.40	*-440 feet*

2. *Determine the difference between the two factors:*

   -440 + 348 = -92 feet

3. *Determine amount of difference to be added to the 30.30 "Hg conversion factor:*

   -92.0 × .5 = -46.0 feet

4. *Add the amount of difference to the amount shown for the 30.30" Hg conversion factor:*

   -348 + (-46) = -394 feet

5. *Subtract the correction factor from the airport elevation to find pressure altitude:*

   3,894
   – 394
   3,500 feet MSL (pressure altitude)

6. *Determine the density altitude by entering the chart at +25°F; proceed upward to the 3,500-foot pressure altitude line; from the point of intersection move to the left edge of the chart and read a density altitude of 2,000 feet.*

(PLT019, PA.I.F.K2a, PH.I.F.K2a) — FAA-H-8083-25

ALL

3299. (Refer to Figure 8.) What is the effect of a temperature decrease and a pressure altitude increase on the density altitude from 90°F and 1,250 feet pressure altitude to 55°F and 1,750 feet pressure altitude?

A—1,700-foot increase.
B—1,300-foot decrease.
C—1,700-foot decrease.

Referencing FAA Figure 8, use the following steps:

1. *Determine the density altitude when the temperature is +90°F and the pressure altitude is 1,250 feet. Enter the density altitude chart at +90°F and proceed upward to the 1,250-foot pressure altitude line. From the point of intersection move to the left edge of the chart and read a density altitude of 3,600 feet.*
2. *Determine the density altitude when the temperature is +55°F and the pressure altitude is 1,750 feet. Enter the density altitude chart at +55°F and proceed upward to the 1,750-foot pressure altitude line. From the point of intersection move to the left edge of the chart. Read a density altitude of 1,900 feet.*
3. *Determine the change in density altitude:*

   3,600 – 1,900 = 1,700 foot (decrease)

(PLT124, PA.I.F.K2a, PH.I.F.K2a) — FAA-H-8083-25

ALL, SPO

3386. What are the standard temperature and pressure values for sea level?

A—15°C and 29.92 "Hg.
B—59°C and 1013.2 millibars.
C—59°F and 29.92 millibars.

Standard sea level pressure is 29.92 "Hg. Standard sea level temperature is 15°C. (PLT345, PA.I.F.K2a, PH.I.F.K2a) — FAA-H-8083-25

ALL, SPO

3394. Which factor would tend to increase the density altitude at a given airport?

A—An increase in barometric pressure.
B—An increase in ambient temperature.
C—A decrease in relative humidity.

On a hot day, the air becomes thinner, or lighter, and its density is equivalent to a higher altitude in the standard atmosphere, thus the term "high density altitude." (PLT206, PA.I.F.K2a, PH.I.F.K2a) — FAA-H-8083-28

Answer (A) is incorrect because an increase in barometric pressure would decrease density altitude. Answer (C) is incorrect because a decrease in relative humidity would decrease density altitude.

Answers

3298 [A] 3299 [C] 3386 [A] 3394 [B]

AIR, RTC, WSC, PPC, SPO

3290. Which combination of atmospheric conditions will reduce aircraft takeoff and climb performance?

A—Low temperature, low relative humidity, and low density altitude.
B—High temperature, low relative humidity, and low density altitude.
C—High temperature, high relative humidity, and high density altitude.

An increase in air temperature or humidity, or a decrease in air pressure (which results in a higher density altitude), will significantly decrease both power output and propeller efficiency. (PLT124, PA.I.F.K2a, PH.I.F.K2a) — FAA-H-8083-25

Answer (A) is incorrect because all of these conditions improve performance. Answer (B) is incorrect because low humidity and low density altitude improve performance.

AIR, RTC, WSC, PPC, SPO

3291. What effect does high density altitude have on aircraft performance?

A—It increases engine performance.
B—It reduces climb performance.
C—It increases takeoff performance.

An increase in air temperature or humidity, or a decrease in air pressure (which results in a higher density altitude), will significantly decrease both power output and propeller efficiency. (PLT127, PA.I.F.K2a, PH.I.F.K2a) — FAA-H-8083-25

AIR, RTC, WSC, PPC

3292. (Refer to Figure 8.) What is the effect of a temperature increase from 25 to 50°F on the density altitude if the pressure altitude remains at 5,000 feet?

A—1,200-foot increase.
B—1,400-foot increase.
C—1,650-foot increase.

Referencing FAA Figure 8, use the following steps:

1. *Enter the density altitude chart at 25°F. Proceed upward to intersect the 5,000-foot pressure altitude line. From the point of intersection, move left to the edge of the chart and read a density altitude of 3,850 feet.*
2. *Enter the density altitude chart at 50°F. Proceed upward to the 5,000-foot pressure altitude line. From the point of intersection, move left to the edge of the chart and read a density altitude of 5,500 feet.*
3. *Determine the change in density altitude:*

   5,500 – 3,850 = 1,650 feet (increase)

(PLT005, PA.I.F.K2a, PH.I.F.K2a) — FAA-H-8083-25

AIR, RTC, WSC, PPC

3293. (Refer to Figure 8.) Determine the pressure altitude with an indicated altitude of 1,380 feet MSL with an altimeter setting of 28.22 at standard temperature.

A—2,991 feet MSL.
B—2,913 feet MSL.
C—3,010 feet MSL.

Referencing FAA Figure 8, use the following steps:

1. *Since the altimeter setting that is given is not shown in FAA Figure 8, interpolation is necessary. Locate the settings immediately above and below the given value of 28.22 "Hg:*

Altimeter Setting	***Conversion Factor***
28.2	*1,630 feet*
28.3	*1,533 feet*

2. *Determine the difference in the two conversion factors:*

   1,630 – 1,533 = 97 feet
3. *Determine the amount of the difference to be subtracted from the 28.20 "Hg conversion factor (2/10 of 97).*

   97.0 × .2 = 19.4
4. *Subtract the amount of difference from the amount shown for the 28.20 "Hg conversion factor:*

   1,630.0 – 19.4 = 1,610.6
5. *Add the correction factor to the indicated altitude to find the pressure altitude:*

   1,610.6
   + 1,380.0
   2,990.6 feet MSL (pressure altitude)

(PLT019, PA.I.F.K2a, PH.I.F.K2a) — FAA-H-8083-25

Answers

3290 [C] 3291 [B] 3292 [C] 3293 [A]

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