NEW SAMPLE TEST QUESTIONS

Here are the latest sample FAA-style test questions that we have assembled based on current FAA required knowledge areas, customer feedback, FAA sample tests and other sources.

AIRLINE TRANSPORT PILOT QUESTIONS AND EXPLANATIONS

You will want to know that the FAA is making a concerted effort to update and reword every question in their databank. For this reason, questions in our courses will no longer exactly match any of the questions the FAA is asking on the knowledge tests. The good news is that our courses are designed to help you understand principles and concepts the FAA wants you to know and use as a pilot. We know that if you understand the underlying concept, you should be able to answer any question about the subject. Please ensure that you thoroughly understand the questions below. They are not currently covered in your course but may appear on your test.

NOTE: These questions are similar to and representative of questions the FAA is asking on the knowledge test. The numerical values and locations the FAA is using may be different than the questions in our databank, but the concept and principles will remain the same.

NOTE: The FAA has changed the name of the *Airport/Facility Directory (A/FD)* to *Chart Supplement*. Although you may still see either term used in questions and figures the content will be the same.

AERODYNAMICS

7028 PLT347
Which engine is the “critical” engine of a twin-engine airplane?

A. The engine whose failure has the most adverse effect on directional control.
B. The engine whose failure has the least adverse effect on directional control.
C. The engine that is operating when used by the manufacture to determine V_{MC}.

7028 (Ans. A)

In many U.S. designed light-twins, both engines rotate clockwise as viewed from the rear. At low airspeed and high power, the downward moving blade of each engine develops more thrust than the upward moving blade. This asymmetric thrust, or "P" factor, results in a center of thrust at the right side of each engine. The left engine then has the center of thrust closest to the centerline of the fuselage and is the critical engine. Loss of the critical engine would produce the higher V_{MC}. The yawing force of the right engine is greater than the left engine because the center of thrust is farther away from the fuselage centerline. (Longer leverage arm)

Answer B is incorrect because the critical engine is the engine whose failure has the most adverse effect. Answer C is incorrect because it is the engine that has failed that is used to determine V_{MC}.

7029 PLT094

The increase in specific range with altitude of the turbojet airplane can be attributed to three factors. One of these is

A. an increase in altitude in the troposphere results in higher energy air flow.
B. an increase in proportion of velocity versus thrust required.
C. decreased engine turbine speeds.

7029 (Ans. B)

The three factors affecting specific range are (1) an increase in altitude will increase the proportion of velocity to thrust and provide a greater TAS for the same thrust, (2) an increase in altitude in the troposphere will produce lower inlet air temperature which reduces the specific fuel consumption and (3) an increase in altitude requires increased engine RPM to provide cruise thrust and the specific fuel consumption reduces as normal rated RPM is approached.

Answer A is incorrect because an increase in altitude in the troposphere reduces specific fuel consumption. Answer C is incorrect because an increase in altitude requires increased turbine speeds to maintain the desired airspeed.

OPERATIONAL FACTORS

7024 PLT104

Automation has been found to

A. create much larger errors at times.
B. improve crew situational awareness skills.
C. substitute for a lack of aviation experience.

7024 (Ans. B)

Situational awareness skills of flight crews do improve with the use of automation.

Answer A is incorrect because automation only causes errors if it is not used properly. Answer C is incorrect because automation in the cockpit should never be substituted for lack of aviation experience.

9976 PLT104

Automation in aircraft has proven

A. to be able to create larger errors.
B. that automation improves flying skills.
C. effective in preventing complacency.

9976 (Ans. A)

Without close attention, automation can create large errors when the system is programmed incorrectly or misused in flight.

Answers B is incorrect because over reliance on automation can cause flying skills to deteriorate. Answer C is incorrect because the opportunity to become complacent increases when you place over reliance on the automation.

9807 PLT524

Automated flight decks or cockpits

A. enhance basic pilot skills.
B. decrease the workload in terminal areas.
C. often create much larger pilot errors than traditional cockpits.

9807 (Ans. B)

Increased safety and better utility of an aircraft are why advanced avionics were designed. They are particularly good at decreasing the pilot workload in terminal areas.

Answer A is incorrect because it has been shown that there is noticeable erosion of some pilot skills with the use of automated cockpits. Answer C is incorrect because automation can induce pilot errors but does not create larger pilot errors than a traditional cockpit.

9816 PLT022

An experienced pilot trying to meet a schedule

A. can expect the flightcrew to alert them to problems or areas of concern.
B. will always err on the side of caution.
C. can fail to perceive operational pitfalls.

9816 (Ans. C)

Pilots with considerable experience can be faced with operational pitfalls. Meeting the goals of keeping schedules, flying the flight as planned and pleasing passengers can cause failure to perceive any operational pitfalls.

Answer A is incorrect because the other flight crewmembers may not be aware of problems or have concerns when there is a situation where they really should. Answer B is incorrect because even experienced pilots can make a poor decision.

9832 PLT420

A pilot employed by an air carrier and/or commercial operator may conduct GPS/WAAS instrument approaches

A. if they are not prohibited by the FAA-approved aircraft flight manual and the flight manual supplement.
B. only if approved in their air carrier/commercial operator operations specifications.
C. only if the pilot was evaluated on GPS/WAAS approach procedures during their most recent proficiency check.

9832 (Ans. B)

GPS/WAAS operations, including instrument approaches, may be conducted by pilots employed by an air carrier and/or commercial operator only if the operators meet the appropriate provisions of their FAA-approved operations specifications.

Answer A is incorrect because it is the general rule for all pilots other than air carrier and commercial operators who have this requirement already built in to the operator operations and specifications. Answer C is incorrect because there are no specific requirements for pilot evaluation of GPS/WAAS approach procedures. For IFR currency, there are no regulations specifying which types of approaches fulfill the IFR currency requirements.

9834 PLT524

You see the indication in the figure (attached to the back of this update) on your PFD, but your standby indicator reads 120 knots and the power is set for 120-knot cruise in level flight. You decide the

A. pitot tube may be plugged with ice or a bug.
B. standby indicator is defective because there is no red ‘X’ on the speed tape display.
C. airspeed means that attitude is incorrect.

9834 (Ans. A)

Given the conditions in the question, answer A could only be correct if there are two separate pitot-static systems. One to the air data computer (ADC) linked to the airspeed tape display and the other going to the stand by airspeed indicator.

Answer B is incorrect because the standby airspeed indicator and the power setting agree. You will only get a red X on the PFD if the ADC fails. A bad input from the pitot system will not trigger a red X. Answer C is incorrect because the power setting and the standby airspeed confirm that the aircraft is in level flight.

9870 PLT104

Automation has been found to

A. improve crew situational awareness skills.
B. create higher workloads in terminal areas.
C. substitute for a lack of aviation experience.

9870 (Ans. A)

Situational awareness skills of flightcrews do improve with the use of automation.

Answer B is incorrect because automation reduces the workload in terminal areas. Answer C is incorrect because automation in the cockpit should never be substituted for lack of aviation experience.

9871 PLT524

When flying an aircraft with electronic flight displays (EFDs), risk increases

A. if the pilot expects the electronics to enhance flight safety and remove pilot error.
B. when the pilot expects the equipment to malfunction on occasion.
C. if the pilot believes the EFD will compensate for lack of skill and knowledge.

9871 (Ans. C)

When a pilot believes that electronic flight displays compensate for lack of skill and knowledge, risk increases.

Answer A is incorrect because while flight safety may be enhanced by better displays, risk increases if electronics are expected to remove pilot error. Answer B is incorrect because expecting occasional equipment malfunction *decreases* risk.

9886 PLT104

Automatic Decision-Making is

A. a reflexive type of decision-making.
B. an impulsive type of decision-making.
C. an internalized type of decision-making.

9886 (Ans. A)

Reflexive decision-making is known as automatic decision-making. In an emergency, a pilot's training and experience trigger creative revisions when there is no time for analytical decision-making.

Answer B is incorrect because impulsive decision-making occurs when a pilot in trouble tries to do something, anything, on impulse instead of relying on experience and training. Answer C is incorrect because internalizing is not a type of decision-making.

9887 PLT354

In order to achieve the highest level of safety,

A. each flight crewmember must carefully monitor the aircraft's flight path.
B. the crewmembers must continually monitor their seat dependent tasks.
C. the captain's judgment must not be questioned.

9887 (Ans. A)

Flightcrew performance, incidents and accidents have identified inadequate flightcrew monitoring and cross-checking as a problem for aviation safety. To ensure the highest levels of safety each flight crewmember must carefully monitor the aircraft's flight path and systems and actively cross-check the actions of other crewmembers.

Answer B is incorrect because while monitoring the tasks that are exclusive to one seat or the other is important, it does not rise to the highest level of safety that include monitoring of flight path, systems and cross checking crewmembers. Answer C is incorrect because each flight crewmember is free to, and is expected to question the judgment of the others when necessary.

9888 PLT104

CRM error management includes

A. effective use of all available resources: human resources, hardware, and information.
B. error callout and error guidance training.
C. error prevention, error detection, and recovery from the error.

9888 (Ans. C)

Error prevention, error detection, and recovery from the error define error management. Pilot errors cannot be entirely eliminated and it is important that pilots develop appropriate error management skills and procedures.

Answer A is incorrect because it defines the overall definition of crew resource management. Answer B is incorrect because error call out and error guidance training would be included in error prevention, detection and recovery.

9889 PLT104
An experienced pilot mistakes the runway heading for the instructed heading for departure. What kind of error is this?

A. Experience error.
B. Detection error.
C. Insight detection.

9889 (Ans. B)
Problem detection is the first step in the decision-making process. It begins with recognizing that a change occurred or that an expected change did not occur. Incorrectly detecting the problem to begin with is an error that is critical during a decision-making process.

Answer A is incorrect because an experience error is one that occurs from having limited experience. Answer C is incorrect because insight (and experience) are used to distinguish a problem, not detect it in the first place.

9890 PLT104
An experienced, current, and proficient pilot fails to notice the landing gear is not extended for landing. This is an example of

A. systems training.
B. problem detection.
C. procedures knowledge.

9890 (Ans. B)
Problem detection is the first step in the decision-making process. It begins with recognizing that a change occurred or that an expected change did not occur. Incorrectly detecting the problem to begin with is an error that is critical during a decision-making process.

Answers A and C are incorrect because the experienced pilot in this question undoubtedly has training and knowledge of both aircraft systems and procedures. What failed was the ability to detect the problem.

9891 PLT103
Accident-prone pilots tend to

A. have disdain toward rules.
B. follow methodical information gathering techniques.
C. excessively utilize outside resources.

9891 (Ans. A)
Personality can play a large part in gauging hazards. People who might be reckless in nature take this on board the flight deck. One of the primary characteristics exhibited by accident-prone pilots was their disdain toward rules.

Answer B is incorrect because always using the same techniques for information gathering is likely not a sign of a reckless pilot. Answer C is incorrect because they would also be unlikely to utilize outside resources (ATC, NOTAMs) at all.

9892 PLT103
When a recently certificated pilot decides to not wait any longer for the fog and low ceilings to burn off, this pilot may be exhibiting the hazardous

A. resigned attitude.
B. macho attitude.
C. impulsive attitude.

9892 (Ans. C)
One of the five hazardous attitudes that are part of aeronautical decision making (ADM) is the impulsive attitude. “I have to do something, quickly”.

Answer A is incorrect because the resignation hazardous attitude is “What’s the use? The weather will never improve” and wouldn’t be likely to launch into the existing weather conditions. Answer B is incorrect because the macho hazardous attitude says “I can do it. I don’t need to wait for the weather to improve” does not fit the scenario given in the question.

9893 PLT104

An air carrier crew fixated on completing the last flight of a four day trip often may exhibit

A. get-there-itis.
B. staged decision-making.
C. naturalistic decision-making.

9893 (Ans. A)

There are several of classic behavioral traps that pilots can fall into. One of them is get-there-itis when the pressure of getting home gets in the way of good judgment.

Answer B is incorrect because it is not a behavioral trap. Answer C is incorrect because naturalistic decision-making (also called automatic decision-making) is also not a behavioral trap.

9894 PLT104

An air carrier aircraft flown into the ground while troubleshooting a landing gear fault is an example of

A. neglect and reliance on memory.
B. loss of situational awareness.
C. lack of aviation experience.

9894 (Ans. B)

Operational errors can result from the loss of situational awareness. Controlled flight into terrain (CFIT) is an extreme example of loss of situational awareness from focusing on only one thing.

Answer A is incorrect because the crew was attending to the problem and lost awareness of what the airplane was doing. Answer C is incorrect because air carrier crews have aviation experience and loss of situational awareness can happen to experienced pilots.

9895 PLT104

CRM training refers to

A. the two components of flight safety and resource management, combined with mentor feedback.
B. the three components of initial indoctrination awareness, recurrent practice and feedback, and continual reinforcement.
C. the five components of initial indoctrination awareness, communication principles, recurrent practice and feedback, coordination drills, and continual reinforcement.

9895 (Ans. B)

CRM training is comprised of three components: initial indoctrination/awareness, recurrent practice and feedback, and continual reinforcement. Trainees need these three components to learn attitudes and behaviors that will endure. Effective CRM begins in initial training; it is strengthened by recurrent practice and feedback; and it is sustained by continuing reinforcement that is part of the corporate culture and embedded in every stage of training.

Answers A and C are incorrect because neither of them defines Crew Resource Management.

9896 PLT104

The crew monitoring function is essential,

A. particularly during high altitude cruise flight modes to prevent CAT issues.
B. particularly during approach and landing to prevent CFIT.
C. during RNAV departures in class B airspace.

9896 (Ans. B)

Effective monitoring and cross-checking can be the last line of defense that prevents an accident because detecting an error or unsafe situation may break the chain of events leading to an accident. Monitoring is always essential, and particularly so during approach and landing when controlled flight into terrain (CFIT) accidents are most common.

Answer A is incorrect because monitoring cannot prevent CAT (clear air turbulence) issues. Answer C is incorrect because monitoring should be occurring all the time, not just in class B airspace.

9897 PLT104
Error management evaluation

A. should recognize not all errors can be prevented.
B. may include error evaluation that should have been prevented.
C. must mark errors as disqualifying.

9897 (Ans. A)
Since pilot errors cannot be entirely eliminated, pilots need to develop appropriate error management (error prevention, detection, and recovery) skills and procedures.

Answer B is incorrect because it makes no sense. Answer C is incorrect because errors need to be managed, not made disqualifying.

9942 PLT104
Effective CRM reinforcement depends on

A. Video and audio reviews.
B. long critiques.
C. usable feedback.

9942 (Ans. C)
Effective reinforcement depends upon usable feedback to crewmembers on their CRM practices and on their technical performance.

Answer A is incorrect because you need feedback on real world situations. Answer B is incorrect because long critiques don't hold attention.

9943 PLT104
Human behavior

A. rarely results in accidents unless deliberate actions are performed.
B. is responsible for three out of four accidents.
C. is well understood, so behavioral induced accidents are exceedingly rare.

9943 (Ans. B)
Human error or human behavior is a contributing cause to 60 to 80 percent of all air carrier incidents and accidents.

Answers A and C are incorrect because human behavior is frequently a factor in aircraft accidents.

9944 PLT104
When a pilot who is new to advanced avionics operations operates closer to personal or environmental limits,

A. greater utilization of the aircraft is achieved.
B. risk is increased.
C. risk is decreased.

9944 (Ans. B)
Safety of flight can be compromised and risk increased if pilots attempt to use the advanced avionics to substitute for required weather, lower personal minimums or aerodynamic needs.

Answer A is incorrect because using the aircraft in more hazardous conditions will increase risk. Answer C is incorrect because risk is increased with over reliance on advanced avionics.

9945 PLT104
Automation in aircraft has proven

A. to present new hazards in its limitations.
B. that automation is basically flawless.
C. effective in preventing accidents.

9945 (Ans. A)
The advantages of automation can be offset by its limitations if the aircrew is not properly trained and proficient.

Answer B is incorrect because it can fail or be misused. Answer C is incorrect because some accidents are induced through the misuse of automation.

9946 PLT104

The lighter workloads associated with glass (digital) flight instrumentation

A. are instrumental in decreasing flightcrew fatigue.
B. have proven to increase safety in operations.
C. may lead to complacency by the flight crew.

9946 (Ans. C)

While automation made the promise of reducing human mistakes, in some instances it actually created larger errors. At some times automation seemed to lull the flight crews into complacency.

Answer A is incorrect because experience shows increased workloads from advanced avionics. Answer B is incorrect because route or approach changes often come at a time when management of the aircraft is most critical and can lead to errors leading to incidents or accidents.

9950 PLT141

On approach to the runway at an airport equipped with stand-alone Final Approach Runway Occupancy Signal (FAROS) you notice the PAPI start to flash.

A. If you are below 300 feet AGL and ATC cannot resolve the conflict, execute an immediate “go around”.
B. If you are at 500 feet AGL and ATC cannot resolve the conflict execute an immediate “go around”.
C. The PAPI are unreliable and should be ignored.

9950 (Ans. A)

FAROS will cause the PAPI to flash when there is an aircraft or vehicle in the runway activation zone. If you are more than 300 feet AGL you can continue the approach, attempt to acquire the conflicting traffic and get a resolution from ATC. If you are below 300 AGL and don’t have the traffic in sight and clarification from ATC you should execute an immediate “go around”.

Answer B is incorrect you may continue the approach and attempt to resolve the issue down to 300 feet AGL. Answer C is incorrect because the system is functioning as designed to warn you of possible conflicting traffic.

7045 PLT149

All runway hold markings consist of

A. 2 dashed and 1 solid yellow lines.
B. 2 dashed and 2 solid yellow lines.
C. 1 dashed and 1 solid yellow line.

7045 (Ans. B)

Runway hold markings are 2 dashed and 2 solid lines with the solid lines being nearest the runway.

Answer A is incorrect because there is no such marking. Answer C is incorrect because that marks the boundary between movement and non-movement areas.

7046 PLT501

When encountering severe turbulence, you should

A. Slow to turbulent air penetration speed.
B. Maintain constant airspeed and altitude.
C. Maintain constant altitude.

7046 (Ans. A)

You should slow to below turbulent air penetration speed, maintain a constant attitude and accept variations in altitude.

Answers B and C are incorrect because you should accept variations in altitude while maintaining a constant attitude.

FEDERAL AVIATION REGULATIONS

9849 PLT425

Before an ETOPS flight may commence, an ETOPS

A. preflight check must be conducted by a certified A&P and signed off in the logbook.
B. pre-departure service check must be certified by a PDSC Signatory Person.
C. pre-departure check must be signed off by an A&P or the PIC for the flight.

9849 (Ans. B)

A Pre-Departure Service Check Signatory Person must certify that the ETOPS pre-departure service check has been accomplished. FAR G135.2.8(b)(3) FAR 121.374(b)(3).

Answer A is incorrect because the A&P must be specifically trained and certified as a PDSC Signatory Person to approve the aircraft for the flight. Answer C is incorrect because unless either is designated as a PDSC Signatory Person they may not sign off on the pre-departure check.

9904 PLT367

Before requesting RVSM clearance, each person

A. shall correctly annotate the flight plan.
B. must file an ICAO RSVM flight plan.
C. should file for odd altitudes only.

9904 (Ans. A)

By regulation, each person requesting a clearance to operate within RVSM airspace shall correctly annotate the filed flight plan with the status of the operator and aircraft with regard to RVSM approval. FAR 91 Appendix G.

Answer B is incorrect because RVSM can be conducted in domestic airspace on a domestic flight plan. Answer C is incorrect because odd and even altitudes are used.

IFR PROCEDURES

9878 PLT354

GBAS approaches are

A. flown using the same techniques as an ILS once selected and identified.
B. flown the same as an LDA with glide slope tuning and identification.
C. automatically tuned and displayed after selection of the three character procedure identifier.

9878 (Ans. A)

GBAS (GLS) is a **G**round-**B**ased **A**ugmentation **S**ystem (**G**BAS **L**anding **S**ystem) to GPS that provides service within a 20-30 mile radius for precision approach, departure procedures, and terminal area operations. GBAS is the ICAO term for Local Area Augmentation System (LAAS). LAAS was developed as an “ILS look-alike” system from the pilot perspective and are flown using the same techniques as an ILS once it is selected and identified.

Answer B is incorrect because an LDA is not the same as an ILS. It is a non-precision localizer approach and is normally without a glide slope. Answer C is incorrect because GLS approaches can be selected by entering a five digit channel number either manually or through the FMS.

FAR – PART 117 and 121

9922 PLT395

"Physiological night's rest" means

A. 9 hours of rest that encompasses the hours of 0100 and 0700 at the crewmember's home base.
B. 10 hours of rest that encompasses the hours of 0100 and 0700 at the crewmember's home base.
C. 12 hours of rest that encompasses any continuous 8 hour period for uninterrupted or disturbed rest.

9922 (Ans. B)

By regulation, physiological night's rest means10 hours of rest that encompasses the hours of 0100 and 0700 at the crewmember's home base. FAR 117.3.

Answers A and C are incorrect because neither describe the regulatory definition of physiological night's rest.

9923 PLT409

In order to be assigned for duty, each flight crewmember must report

A. on time, in uniform, and properly prepared to accomplish all assigned duties.
B. to the airport on time, after the designated rest period and fully prepared to accomplish assigned duties.
C. for any flight duty period rested and prepared to perform his/her assigned duties.

9923 (Ans. C)

To be assigned flight duty, each flight crewmember must report for any flight duty rested and prepared to perform his/her assigned duties. FAR 117.5.

Answers A and B are incorrect because being on time or in uniform is not a regulatory requirement to be assigned flight duty. (Being on time and in uniform may be a requirement of the employer.)

9924 PLT409

Flight crewmembers must receive fatigue education and awareness training

A. with all required air carrier dispatcher and every flight crewmember training activity.
B. annually for flight crewmembers and every 24 months for dispatchers, flight crewmember schedulers, and operational control individuals.
C. annually for flight crewmember schedulers, operational control individuals and flight crewmembers and dispatchers.

9924 (Ans. C)

Fatigue education and awareness training must be provided annually to flightcrew schedulers, operational control individuals, flightcrews and dispatchers. FAR 117.9.

Answer A is incorrect because schedulers and operational control people must also receive annual fatigue education and awareness training. Answer B is incorrect because fatigue education and awareness training must be provided annually not just to flight crewmembers but also to schedulers, operational control individuals and dispatchers.

9925 PLT409

In an airplane with an augmented crew of three flight crewmembers assigned, the maximum flight duty period is

A. 17 hours if assigned to report at 1200 with a class 3 rest facility available.
B. 16 hours if assigned to report at 0630 with a class 1 rest facility available.
C. 14 hours if assigned to report at 1630 with a class 2 rest facility available.

TABLE C TO PART 117—FLIGHT DUTY PERIOD: AUGMENTED OPERATIONS

	Maximum flight duty period (hours) based on rest facility and number of pilots					
	Class 1 rest facility		Class 2 rest facility		Class 3 rest facility	
Scheduled time of start (acclimated time)	3 pilots	4 pilots	3 pilots	4 pilots	3 pilots	4 pilots
0000-0559	15	17	14	15.5	13	13.5
0600-0659	16	18.5	15	16.5	14	14.5
0700-1259	17	19	16.5	18	15	15.5
1300-1659	16	18.5	15	16.5	14	14.5
1700-2359	15	17	14	15.5	13	13.5

9925 (Ans. B)

Flight duty periods vary based on several factors. In this case, the crew is "augmented" meaning that the third crewmember is a relief pilot. Other factors used to determine flight duty time assignments are the scheduled start time and type of rest facilities available in the aircraft. In Table C, find the start times down the left column. 0630 is included in the second listing down – 0600-0659. Next find 3 pilots with a Class 1 rest facility across the top of Table C. Drop down to find that this crew's maximum flight duty period is 16 hours. (A rest facility is defined as a bunk or seat installed in an aircraft that provides a flight crewmember with a place to sleep. Class 1 means a bunk or seat that provides a flat surface for sleeping, is located separately from the flight deck and passenger cabin, temperature controlled, isolated from noise and allows a crewmember to control the amount light.) FAR 117.3 & Table C.

Answer A is incorrect because for 3 pilots to be assigned to 17 hours of flight duty starting at 1200 they must have available a Class 1 facility, not a Class 3 facility. (A Class 3 rest facility provides an aircraft seat in the cabin or flight deck that reclines at least 40 degrees and provides leg and foot support.) Answer C is incorrect because 14 hours could only be assigned to 3 pilots who report for duty at 1630 if a Class 3 rest facility is available.

9926 PLT409

In an airplane with a minimum flightcrew of two assigned, your flight time may not exceed

A. 9 hours if assigned to report at 0330.
B. 9 hours if assigned to report at 0500.
C. 9 hours if assigned to report at 2030.

TABLE A TO PART 117—MAXIMUM FLIGHT TIME LIMITS FOR UNAUGMENTED OPERATIONS TABLE

Time of report (acclimated)	Maximum flight time (hours)
0000-0459	8
0500-1959	9
2000-2359	8

9926 (Ans. B)

Flight time duty with a minimum of 2 assigned flightcrew may not exceed 9 hours if assigned to report at 0500. From the Time of Report column note that 0500 is in the middle line and that the maximum flight time is 9 hours. FAR 117 Table A.

Answers A and C are incorrect because they do not show the correct number of maximum flight time hours.

9927 PLT409

For unaugmented flightcrew operations, your maximum flight duty period is

A. 13 hours if assigned to report at 0700 for 4 flight segments.
B. 13 hours if assigned to report at 2030 for 3 flight segments.
C. 10.5 hours if assigned to report at 1730 for 6 flight segments.

TABLE B TO PART 117—FLIGHT DUTY PERIOD: UNAUGMENTED OPERATIONS

Scheduled time of start (acclimated time)	Maximum flight duty period (hours) for lineholders based on number of flight segments						
	1	2	3	4	5	6	7+
0000-0359	9	9	9	9	9	9	9
0400-0459	10	10	10	10	9	9	9
0500-0559	12	12	12	12	11.5	11	10.5
0600-0659	13	13	12	12	11.5	11	10.5
0700-1159	14	14	13	13	12.5	12	11.5
1200-1259	13	13	13	13	12.5	12	11.5
1300-1659	12	12	12	12	11.5	11	10.5
1700-2159	12	12	11	11	10	9	9
2200-2259	11	11	10	10	9	9	9
2300-2359	10	10	10	9	9	9	9

9927 (Ans. A)

Unaugmented flightcrew operations are those conducted by flight crewmembers who are assigned flight duty periods and are not acting as lineholders (reserve/relief) pilots. Of the answer choices given only choice A has all the correct components. For flight duty time to start at 0700 for 4 segments the maximum flight duty period is 13 hours. FAR 117.3 & Table B.

Answer B is incorrect because a start time of 2030 for 3 flight segments has a maximum flight duty period of 11 hours. Answer C is incorrect because a start time of 1730 for 6 flight segments has a maximum flight duty time period of 9 hours.

9928 PLT409

The time spent resting during unaugmented operations will not be counted towards the flight duty period limitation if the rest period is at least

A. 3 hours long after reaching suitable accommodations.
B. 4 hours long after reaching suitable accommodations.
C. 4 hours long which can include transportation to suitable accommodations.

9928 (Ans. A)

Unaugmented operations (no relief pilots) that involve split duty (when there is a scheduled break in duty that is less than a required rest period) must include a rest (sleep) period in a suitable accommodation. A suitable accommodation refers to ground facilities that include: temperature control, noise mitigation, a flat or near flat bunk, bed or chair, light control) during the flight duty period. The rest will not be counted as part of the flight duty if the rest period is at least 3 hours long after reaching suitable accommodations. FAR 117.3 & 15.

Answers B and C are incorrect because 3 hours is the allotted time, not 4 hours.

9929 PLT409

Notification of the rest opportunity period during unaugmented operations, must be

A. given before the next to last flight segment.
B. given before the beginning of the flight duty period.
C. provided no later than after the first flight segment offered after the first flight segment is completed.

9929 (Ans. B)

During split duty (when there is a scheduled break in duty that is less than a required rest period) in unaugmented operations (no relief pilot), a rest opportunity must be scheduled (and notification given) before the beginning of the flight duty period. FAR 117.3 & 15.

Answers A and C are incorrect because the rest opportunity schedule and notification cannot be given at any other time except before the flight duty begins and not at other times.

9930 PLT409

If the augmented flight crewmember is not acclimated, the

A. maximum flight duty period given in 14 CFR part 117, Table C (not included herein) is reduced by 30 minutes.
B. flight duty period assignment must be reduced 15 minutes by each 15 degrees of longitude difference from the previous rest location.
C. minimum rest period must be extended by 3 hours.

9930 (Ans. A)

If an augmented flight crewmember is also not acclimated (has not been within 60° longitude and who has not spent 72 hours or more at the location of the beginning of the flight duty period), the maximum duty period shown in Table C is reduced by 30 minutes. FAR 117.17 & Table C.

TABLE C TO PART 117—FLIGHT DUTY PERIOD: AUGMENTED OPERATIONS

	Maximum flight duty period (hours) based on rest facility and number of pilots					
	Class 1 rest facility		**Class 2 rest facility**		**Class 3 rest facility**	
Scheduled time of start (acclimated time)	**3 pilots**	**4 pilots**	**3 pilots**	**4 pilots**	**3 pilots**	**4 pilots**
0000-0559	15	17	14	15.5	13	13.5
0600-0659	16	18.5	15	16.5	14	14.5
0700-1259	17	19	16.5	18	15	15.5
1300-1659	16	18.5	15	16.5	14	14.5
1700-2359	15	17	14	15.5	13	13.5

Answer B is incorrect because acclimation is based on a fixed 60° longitude theater criteria, not increments of 15°. The maximum flight duty time reduction is 30 minutes without any other contingency. Answer C is incorrect because for a non-acclimated pilot the flight duty time, not the rest period, is adjusted.

9931 PLT409

The flight duty period may be extended due to unforeseen circumstances before takeoff by as much as

A. 2 hours.
B. 1 hour.
C. 30 minutes.

9931 (Ans. A)

Unforeseen circumstances arising before takeoff allows the PIC to extend the maximum flight duty permitted by as much as 2 hours. FAR 117.19.

Answers B and C are incorrect because neither 1 hour nor 30 minutes meet the requirement of the regulation.

9932 PLT409

After takeoff, unforeseen circumstances arise. In this case, the flight duty period may be extended by as much as

A. 2 hours.
B. necessary to reach the closest suitable alternate crew base airport.
C. necessary to land at next destination airport or alternate airport.

9932 (Ans. C)

Unforeseen circumstances occurring after takeoff permit extending the flight duty period by as much as necessary to land at the next destination or alternate airport. FAR 117.19.f

Answer A is incorrect because no time limit is specified to extend flight duty hours in unforeseen circumstances. Answer B is incorrect because the flight duty limit extends for destination or alternate airports not just a crew base airport.

9933 PLT409

For airport/standby reserve, all time spent in airport/standby reserve time is

A. not part of the flight crewmember's flight duty period.
B. part of the flight crewmember's flight duty period.
C. part of the flight crewmember's flight duty period after being alerted for flight assignment.

9933 (Ans. B)

The time spent by a reserve pilot in airport/standby (a duty period when the reserve pilot is required by the certificate holder to wait at an airport for a possible assignment) is considered part of the flight crewmember's flight duty. FAR 117.21.

Answer A is incorrect because the airport/standby time is part of the flight duty period. Answer C is incorrect because all the time spent waiting for an assignment is part of the flight time duty period.

9934 PLT409

Limiting flight time for all flight crewmembers will include

A. instruction flight hours, commercial flying, and flying for any certificate holder.
B. any flying by flight crewmembers for any certificate holder or 91K program manager.
C. flying by flight crewmembers for any certificate holder or 91K program manager and any other commercial flight time.

9934 (Ans. B)

Flight time limitations in Part 117 for flightcrews include any flying by flight crewmembers for any certificate holder or 91K (fractional ownership operations) program manager. FAR 117.23.

Answers A and C are incorrect because flight instruction and other Part 91 commercial flying are not flight operations that limit flight duty time.

9935 PLT409

Flight crewmember's flight duty periods are limited to

A. 60 hours in any 168 consecutive hours.
B. 70 hours in any 168 consecutive hours.
C. 60 hours in any 7 days.

9935 (Ans. A)

By regulation, no certificate holder may schedule and no flight crewmember may accept an assignment if the flight crewmember's total flight duty period will exceed 60 hours in any 168 consecutive hours. FAR 117.23.

Answers B and C are incorrect because the rule specifies no more than 60 hours in 168 consecutive hours.

9936 PLT409

A flight crewmember must be given a rest period before beginning any reserve or flight duty period, of

A. 24 consecutive hours free from any duty in the past 7 consecutive calendar days.
B. 36 consecutive hours in the past 168 consecutive hours.
C. 30 consecutive hours in the past 168 consecutive hours.

9936 (Ans. C)

By regulation, a flight crewmember must be given a rest period of 30 consecutive hours in the past 168 consecutive hours before beginning any reserve or flight duty period. FAR 117.25.

Answer A is incorrect because the flight duty and rest periods are based on hours not days. Answer B is incorrect because 36 hours of rest in the past 168 hours is the measure used to determine if a pilot in a new geographical location (theater) has acclimated.

9937 PLT409

No flight crewmember may accept an assignment without scheduled rest opportunities for

A. more than 3 consecutive nighttime flights that infringe on the window of circadian low.
B. more than 4 consecutive nighttime flights that infringe on the window of circadian low in a 168 hour period.
C. consecutive nighttime flights beginning after 0001 hours local home base time.

9937 (Ans. A)

Nighttime flight assignments may not be scheduled or accepted for more than 3 consecutive nighttime flights that “infringe on the window of circadian low”. The window of circadian low means a period of maximum sleepiness that occurs between 0200 and 0559 during a physiological night (which includes the hours of 0100 and 0700). FAR 117.27.

Answer B is incorrect because the regulation specifies 3 consecutive nighttime flights, not 4. Answer C is incorrect because physiological night includes the hour of 0100, not 0001.

9952 PLT380

For ETOPS greater than _____ the Rescue and Fire Fighting Services (RFFS) at an alternate airport must be equivalent to that specified by ICAO Category 4 and the aircraft must remain within the ETOPS authorized diversion time from an Adequate Airport that has RFFS equivalent to that specified by ICAO Category 7

A. 120 minutes.
B. 180 minutes.
C. 200 minutes.

9952 (Ans. B)

By regulation, RFFS requirements for alternate airports and ETOPS greater than 180 minutes diversion time is the criterion for additional requirements. FAR121.106.

Answers A and C are incorrect because the regulation specifies 180 minutes.

9979 PLT450

The holder of an airline transport pilot certificate with restricted privileges or an airline transport pilot certificate may act as

A. a pilot in command for a part 121 supplemental air carrier.
B. a pilot in command for a part 121 air carrier with 500 hours as a second in command under part 121 operations.
C. second in command for a part 121 air carrier with an aircraft type rating for the aircraft to be flown.

9979 (Ans. C)

The restricted ATP certificate allows pilots to serve as second in command in part 121 operations until they gain the required total flight time or reach the minimum age for an unrestricted ATP certificate.

Answers A and B are incorrect because a pilot with a restricted ATP may not act as pilot in command in part 121 operations.

7027 PLT450
An example of air carrier experience a pilot may use towards the 1,000 hours required to serve as PIC in part 121 is flight time as an SIC

A. in part 121 operations.
B. in part 91, subpart K operations.
C. in part 135 operations.

7027 (Ans. A)
To become qualified as PIC in part 121 operations, a pilot may use the experience of 1,000 hours served as SIC in part 121 operations. (FAR 121.436).
Answers B and C are incorrect because a pilot may not use SIC time gained in Part 91, subpart K or part 135 operations as experience toward the 1,000-hour experience requirement to serve as pilot in command in part 121 operations. Only PIC time in those operations qualify.

WEIGHT AND BALANCE TURBOPROP

7004 PLT003
(Refer to figures 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416.) With the load weights shown in figure 414, you fill the fuel tanks to the maximum fuel to remain under maximum gross weight and compute the center of gravity. Your computations indicate?

A. At a C.G. of 200.1, your loading is satisfactory for flight operations.
B. At a C.G. of 180.19, you need to redistribute your loads.
C. At a C.G. of 190.27, you only need to change the cargo pod loading.

7004 (Ans. A)[X]
Using the table in figure 414, the sample loading is already at the maximum fuel for the aircraft loading to allow for a takeoff at maximum takeoff weight. From the takeoff weight and moment in line 10:

$$\text{CG} = \frac{\text{TOTAL MOMENT}}{\text{TOTAL WEIGHT}} = \frac{1{,}743.1}{8{,}750} \times 1{,}000 = 199.2\,\text{in.}$$

In figure 415 enter the chart at the bottom at a C.G of 199.2 and read up to the 8750 line to see that you are on the line and are in the allowable limits for the C.G and weight. The closest answer is A, and if you use a C.G. of 200.1 as given in that answer you are still in the allowable limits for that CG and weight.
Answers B and C are incorrect because neither the derived C.G nor the answer C.G give a satisfactory loading for flight operations.

PERFORMANCE TURBOJET

7030 PLT008
(Refer to FAA-CT-8080-7C, Addendum B, Figure 331 and Addendum C, Figure 461.) At a weight of 73,500 pounds, the expected Landing Field Length is

A. 6,700 feet.
B. 5,700 feet.
C. 6,500 feet.

7030 (Ans. B)
Figure 331 is the airport diagram for San Francisco International airport with a field elevation of 13 feet. No altimeter setting is given so assume a pressure altitude of sea level. Using the chart in figure 461 enter at the bottom with a gross weight of 73,500 pounds and read up to the sea level pressure altitude line and then to the left to see the landing field length in thousands of feet. Answer B is the best choice.
Answers A and C are incorrect but could be obtained by miss plotting in the chart.

7034 PLT121
(Refer to figures 321 and 458) With a reported temperature of 15°C, a 0.8% upslope and calm winds, the maximum permissible quick turn-around landing weight is

A. 80,700 pounds.
B. 72,500 pounds.
C. 84,000 pounds.

7034 (Ans. A)

Figure 321 shows the elevation of Eagle County Regional at 6,535 feet. Enter the chart in figure 458 on the left with the OAT of 15°C and read horizontally to the right to a diagonal line representing 6,535 feet. Then transfer down through the wind portion of the chart to the runway slope reference line. Next read proportionally up and to the right to the horizontal line representing 0.8% runway upslope. Finally read down to get the maximum permissible quick turn weight of 80,700 pounds.

Answers B and C are incorrect but could be obtained by miss-plotting.

7035 PLT011
(Refer to figures 363 and 429) With a reported temperature of 10°C, with cowl anti-ice on and packs on, the takeoff thrust setting is

A. 90.0%.
B. 89.1%.
C. 87.4%.

7035 (Ans. A)

Figure 363 shows the elevation of Helena Regional at 3,877. No altimeter setting is provided so assume that field elevation equals pressure altitude and round up to 4,000 feet. Reading across from 10°C OAT to the 4,000 foot pressure altitude column you get 90.0%.

Answer B is incorrect and could be obtained by reading 10 °C in the 2000 foot column, Answer C is incorrect but could be obtained by miss-reading the table.

7036 PLT013
(Refer to figures 287 and 421) The winds are reported as 220/15. You compute the tailwind component hoping for a Runway 33 takeoff. You compute the tailwind to be

A. 14 knots.
B. 10 knots.
C. 5 knots.

7036 (Ans. C)

Figure 287 for Burlington International is not necessary since you are given Runway 33. Subtracting 220 from 330 you get a wind angle of 110 degrees to the runway. Entering the chart in figure 421 at 110 degrees and going into the 15 knot wind arc you read across to the “Wind component parallel to the runway” axis to get a -5 knot wind component.

Answer A is incorrect because 14 knots is what you get if you read down to the crosswind component axis. Answer B is incorrect but could be obtained by miss-plotting.

7037 PLT089
(Refer to figures 340 and 450) With a reported temperature of 35°C, flaps set at 8, and 5 knots of headwind at a takeoff weight of 82,300 pounds, the V1MBE is

A. 174 knots.
B. 171 knots.
C. 142 knots.

7037 (Ans. A)

Figure 340 shows the elevation of Charlotte Amalie airport is 23 feet. No altimeter setting is provided so assume that field elevation equals pressure altitude. Enter the chart on the top left at 35°C and read horizontally over to the sea level pressure altitude line. Read down to the wind reference line and then up and to the right to zero wind and further up and to the right to 5 knots of headwind. Finally read down through the runway slope as none is reported to get approximately 171 knots. Note 1 says the chart is for flaps 8 so no correction is necessary as the question says flaps 8. Note 2 says increase V1MBE by 3 KIAS for every 2,200 pounds under 84,500. The given takeoff weight is 82,300 so add 3 knots to 171 to get 174 knots V1MBE.

Answer B is incorrect as the reduced takeoff weight was not accounted for. Answer C is incorrect but could be obtained by miss-plotting.

7043 PLT008
(Refer to figure 460) At a weight of 77,500 pounds, and a landing elevation below 5,000 feet, the V_{REF} is

A. 139 knots.
B. 141 knots.
C. 143 knots.

7043 (Ans. C)

Enter the chart from the bottom at 77,500 pounds and read up to the 5,000 feet and below reference line and then read horizontally to the left to get 143 knots.

Answers A and B are incorrect but could be obtained by miss-plotting.

7044 PLT121
(Refer to figure 459) For a supplemental charter, a still air range of 2,250 NM is required. The payload for this non-stop trip is

A. 5,100 pounds.
B. 5,600 pounds.
C. 6,100 pounds.

7044 (Ans. B)

Enter the chart from the bottom at a still air range of 2,250 and read up to the Max Fuel line and then read horizontally to the left to get 5,600 pounds.

Answers A and C are incorrect but could be obtained by miss-plotting.

PERFORMANCE TURBOPROP

8117 PLT456
(Refer to appendix 2, figure 1.) What is the maximum landing distance that may be used by a turbopropeller-powered, small transport category airplane to land on Rwy 24 (dry) at the alternate airport?

A. 6,150 feet.
B. 5,490 feet.
C. 9,150 feet.

8117 (Ans. C)
For actual landings, you may use the entire effective runway to stop the aircraft, and the planning factors for the destination and alternate airports do not apply. FAR 135.387.

Runway 24 Length	10,350 feet
Less offset	- 1,200 feet
Effective Runway	9,150 feet

Answer A is incorrect and may be obtained by miscalculation. Answer B is incorrect and is a result of taking 60% of the effective length of Runway 24 the planning requirement for the destination.

8118 PLT008
(Refer to appendix 2, figure 1.) What is the maximum planning landing distance that may be used by a reciprocating-engine-powered, small transport category airplane to land on Rwy 24 (dry) at the destination airport?

A. 5,490 feet.
B. 6,210 feet.
C. 6,405 feet.

8118 (Ans. A)
For planning purposes at the destination airport you must plan to stop a small reciprocating-engine aircraft in 60% of the available runway. FAR 135.385.

Runway 24 Length	10,350 feet
Less offset	- 1,200 feet
Effective Runway	9,150 feet
Small Recip - Destination	x 60%
Max. Landing Distance	5,490 feet

Answer B is incorrect and is a result of taking 60% of the total length of Runway 24 without deducting the offset. Answer C is incorrect and is the result obtained by using 70% of the available runway, the runway requirement for an alternate airport.

8119 PLT008
(Refer to appendix 2, figure 1.) What is the maximum planning landing distance that may be used by a turbopropeller-powered, small transport category airplane to land on Rwy 6 (dry) at the alternate airport?

A. 5,460 feet.
B. 6,210 feet.
C. 6,370 feet.

8119 (Ans. C)
For planning purposes at the alternate airport you must plan to stop a small transport category turbopropeller-powered airplane in 70% of the available runway. FAR 135.387.

Runway 6 Length	10,350 feet
Less offset	- 1,250 feet
Effective Runway	9,100 feet
Small Turboprop – Alternate	x 70%
Max. Landing Distance	6,370 feet

Answer A is incorrect and is a result of using the destination airport requirement of 60% of the effective length of Runway 24. Answer B is incorrect and is a result of taking 60% of the total length of Runway 6 without deducting the offset.

8120 PLT008

(Refer to appendix 2, figure 1.) What is the maximum planning landing distance that may be used by a reciprocating-engine-powered, small transport category airplane to land on Rwy 6 (dry) at the destination airport?

A. 5,460 feet.
B. 6,210 feet.
C. 6,370 feet.

8120 (Ans. A)

For planning purposes at the destination airport you must plan to stop a small transport category reciprocating-engine airplane in 60% of the available runway. FAR 135.375.

Runway 6 Length	10,350 feet
Less offset	- 1,250 feet
Effective Runway	9,100 feet
Small Recip – Destination	x 60%
Max. Landing Distance	5,460 feet

Answer B is incorrect and is a result of taking 60% of the total length of Runway 6 without deducting the offset. Answer C is incorrect and is a result of taking alternate requirement of 70% of the effective length of Runway 6.

8121 PLT008

(Refer to appendix 2, figure 1.) What is the maximum planning landing distance that may be used by a turbine-engine-powered, small transport category airplane to land on Rwy 24 (dry) at the destination airport?

A. 5,460 feet.
B. 5,490 feet.
C. 6,210 feet.

8121 (Ans. B)

For planning purposes at the destination airport, you must plan to stop a small transport category turbine-engine-powered airplane in 60% of the available runway. FAR 135.385.

Runway 24 Length	10,350 feet
Less offset	- 1,200 feet
Effective Runway	9,150 feet
Small Turbine - Destination	x 60%
Max. Landing Distance	5,490 feet

Answer A is incorrect and is a result of taking 60% of the effective length of Runway 6. Answer C is incorrect and is the result obtained by using 60% of total length of Runway 24 without deducting the offset.

8122 PLT008

(Refer to figure 1.) What is the maximum planned landing distance that may be used by a turbine-engine-powered, small transport category airplane to land on Rwy 6 (wet) at the destination airport?

A. 5,460 feet.
B. 6,279 feet.
C. 9,100 feet.

8122 (Ans. A)

FAR 135.385.

Runway 6 Length	10,350 feet
Less offset	- 1,250 feet
Effective Runway	9,100 feet
Small Turbine - Dest.	x 60 %
Max. Landing Distance	5,460 feet

Answers B and C are mathematically incorrect.

9855 PLT078

(Refer to figure 348.) What effect on the takeoff run can be expected on Rwy 11R at Tucson Intl?

A. Takeoff length shortened to 6,986 feet by displaced threshold.
B. Takeoff run will be lengthened by the 0.7 percent upslope of the runway.
C. Takeoff run shortened by 0.7 percent runway slope to the SE.

9855 (Ans. B)

Any upsloping runway will require a longer takeoff run because it will take longer for your airspeed to reach takeoff speed (V_{R}).

Answer A is incorrect because the full runway length, including a displaced threshold, may be used for takeoffs. Answer C is incorrect because an upsloping runway will cause a longer takeoff run, not a shortened one, to reach takeoff speed.

9954 PLT456
(Refer to appendix 2, figure 1.) What is the maximum landing distance that may be used by a turbopropeller-powered, small transport category airplane to land on Rwy 24 (dry) at the alternate airport?

A. 6,150 feet.
B. 5,490 feet.
C. 9,150 feet.

9954 (Ans. C)
During the actual landing you are allowed to use all the available runway to stop the aircraft. You do not have to stop in the calculated 70% planning distance.

Runway 24 Length	10,350 feet
Less offset	- 1,200 feet
Effective Runway	9,150 feet

Answers A and B are incorrect because a planning factor has been applied to the effective runway length.

9998 PLT009
(Refer to figure 469.) With an OAT of -20 °C at 20,000 feet and an IAS of 150, the Maximum Continuous Power Torque Setting is

A. 64%.
B. 66%.
C. 68%.

9998 (Ans. B)
Enter the chart in figure 469 at -20 °C on the bottom of the chart and go up to the altitude line for 20,000 feet. From that point read horizontally to the right to the reference line for airspeed. Since the reference airspeed is 150 continue straight through to read 66% on the vertical scale.
Answers A and C are incorrect but could be obtained through misreading the chart.

7005 PLT456
(Refer to appendix 2, figure 1.) What is the maximum landing distance that may be used by a reciprocating-engine-powered, small transport category airplane to land on Rwy 24 (dry) at the destination airport?

A. 9,150 feet.
B. 6,210 feet.
C. 6,405 feet.

7005 (Ans. A)
For actual landings you may use the entire effective runway to stop the aircraft and the planning factors for the destination and alternate airports do not apply. FAR 135.375.

Runway 24 Length	10,350 feet
Less offset	- 1,200 feet
Effective Runway	9,150 feet

Answer B is incorrect and is a result of taking 60% of the total length of Runway 24 without deducting the offset. Answer C is incorrect and is the result obtained by using 70% of the available runway, the runway planning requirement for an alternate airport.

7006 PLT456
(Refer to appendix 2, figure 1.) What is the maximum planning landing distance that may be used by a turbopropeller-powered, small transport category airplane to land on Rwy 24 (dry) at the alternate airport?

A. 6,405 feet.
B. 5,490 feet.
C. 6,210 feet.

7006 (Ans. A)
For planning purposes at the alternate airport you must plan to stop a small transport category turbopropeller-powered airplane in 70% of the available runway. FAR 135.387.

Runway 24 Length	10,350 feet
Less offset	- 1,200 feet
Effective Runway	9,150 feet
Small Turboprop – Alternate	x 70%
Max. Landing Distance	6,405 feet

Answer B is incorrect and is a result of taking the destination airport requirement of 60% of the effective length of Runway 24. Answer C is incorrect and is a result of taking 60% of the total length of Runway 24 without deducting the offset.

7007 PLT456

(Refer to appendix 2, figure 1.) What is the maximum landing distance that may be used by a turbine-powered, small transport category airplane to land on Rwy 6 (wet) at the destination airport?

A. 9,100 feet.
B. 6,279 feet.
C. 5,460 feet.

7007 (Ans. A)

For actual landings, you may use the entire effective runway to stop the aircraft, and the planning factors for the destination and alternate airports do not apply. FAR 135.385.

Runway 6 Length	10,350 feet
Less offset	- 1,250 feet
Effective Runway	9,100 feet

Answer B is incorrect and is a result of using the 60% Runway 6 effective length planning requirement and applying the 115% wet runway requirement. Answer C is incorrect and is a result of taking 60% of the effective length of Runway 6, the planning requirement for the destination.

7008 PLT011

(Refer to figure 393.) With an OAT of 10 °C, inertial separator in Bypass and cabin heater, you calculate the maximum torque for climb to be

A. 1,795 Ft-Lbs.
B. 1,695 Ft-Lbs.
C. 1,615 Ft-Lbs.

7008 (Ans.[X])

The chart in figure 393 requires you to know the pressure altitude and this information is not given so it is impossible to answer the question as presented. If you had a pressure altitude to work with you would enter the chart at the bottom at 10 °C, go up to a line representing the pressure altitude and read horizontally to the left to get a torque value. You would then decrease that value by 100 Ft-Lbs for the inertial separator being in Bypass and then reduce that value by 80 Ft-Lbs for the cabin heater being on.

7009 PLT011

(Refer to figures 298, 394, and 395.) With an OAT of 30 °C, inertial separator in normal and a 12 knot headwind, you calculate the short field takeoff distance to clear a 50 foot obstacle distance to be

A. 3,510 feet.
B. 3,833 feet.
C. 4,370 feet.

7009 (Ans. B)

Use figure 298 for the field elevation of 5,837 feet, but there is no information provided to calculate to pressure altitude (i.e. altimeter setting). Assume standard pressure and use the field elevation for the pressure altitude in figure 395.

For 30 °C temperature to clear 50 ft. obstacle:

PRES ALT	TOTAL DIST
4,000	3,510
6,000	4,370

INTERPOLATION:

6,000 - 4,000	=	2,000
5,837 - 4,000	=	1,837

$$\frac{1,837}{2,000} = 0.91$$

4,370 - 3,510	=	860
0.91 x 860	=	790
3,510 + 790	=	4,300

FOR 12 KNOTS HEADWIND:

$$\frac{12}{11} \times 1.09 \times 10\% = 10.9\%$$

4,300 – (.109 x 4,300) = 4,300 – 469 = 3,831

The best answer is 3,833 feet

Answer A is incorrect and is the distance required for a pressure altitude of 4,000 feet. Answer C is incorrect and is the distance required at 6,000 feet with no correction for a headwind.

7010 PLT011

(Refer to figure 398.) With an OAT of 20 °C, inertial separator in Normal and a gross weight of 8,750 pounds, you calculate the climb gradient at 8,000 feet to be

A. 495 FT/NM.
B. 410 FT/NM.
C. 330 FT/NM.

7010 (Ans. C)

The table in figure 398 requires pressure altitude, but the question given of 8,000 ft. is not identified as *pressure* or *indicated* altitude and no altimeter setting is given. Assume standard pressure and use 8,000 as entering the chart at the 8,750 gross weight and read the climb gradient at 20 °C as 330 FT/NM. No correction is applied since the inertial separator is in Normal and there is no mention of cabin heat.

Answer A is incorrect and could be obtained by misreading the table or applying a limitation to a determined value. Answer B is incorrect because it is the climb gradient for 6,000 feet at 8,750 pounds gross weight at 20 °C.

7011 PLT011

(Refer to figure 399.) With an OAT of 15 °C, inertial separator in Bypass and a gross weight of 8,750 pounds, you calculate the climb fuel to 12,000 feet to be

A. 105 Lbs.
B. 112 Lbs.
C. 147 Lbs.

7011 (Ans. B)

With the information given you have to assume that the climb is from sea level to 12,000 feet. 15 °C is standard temperature at sea level so enter the table in the top section for the gross weight of 8,750 pounds and read across on the line for 12,000 feet to find a climb fuel of 105 Pounds. Note 3 says to add 1% for each 2000 feet of climb if the inertial separator is in bypass. The Cabin heat is assumed to be off with the information given so you need to add 6% for the climb to 12,000 feet. 105 x 0.06 = 6.3 so add 6.3 to 105 to get 111.3. The best answer is 112 Lbs.

Answer A is incorrect because that is the fuel to climb with the inertial separator in normal. Answer C is incorrect due to miscalculation.

7012 PLT011

(Refer to figures 298, 401 and 402.) With an OAT of 30 °C, inertial separator in Normal, 10 knots of headwind and a gross weight of 8,500 pounds, you calculate the landing roll to be about

A. 1,080 feet.
B. 1,200 feet.
C. 2,140 feet.

7012 (Ans. A)

Using Figure 298 you determine the field elevation is 5,837 feet. The table in figure 402 requires pressure altitude, but there is no information provided to calculate pressure altitude (i.e. altimeter setting). Assume standard pressure and use the field elevation of 5,837:

For 30 °C temperature ground roll:

PRES ALT	GND ROLL
4,000	1,115
6,000	1,200

INTERPOLATION:

6,000 - 4,000	=	2,000
5,837 - 4,000	=	1,837

$$\frac{1{,}837}{2{,}000} = 0.91$$

1200 - 1115	=	85
0.91 x 85	=	77
1,115 + 77	=	1,192

FOR 10 KNOTS HEADWIND:

$$\frac{10}{11} = 0.909 \times 10\% = 9.09\%$$

1,192 – (.091 x 1,192) = 1,192 – 108 = 1,084

The best answer is 1,080 feet.

Answer B is incorrect because that is the 6,000 ft. ground roll with no adjustment for the headwind. Answer C is incorrect because that is the 6,000 ft. total distance to land and clear a 50 foot obstacle.

7031 PLT123

(Refer to figure 465) At a weight of 60,000 pounds with 35° flaps, the reference stall speed is

A. 96 knots.
B. 124 knots.
C. 101 knots.

7031 (Ans. A)

Enter the chart in figure 465 at the bottom at 60,000 pounds and read up to the diagonal line for 35° of flaps and then read to the right to get 96 knots.

Answers B and C are incorrect and are the approximate stall speeds for 0 and 15° flaps.

7032 PLT089
(Refer to figures 321 and 471) With a reported temperature of -5°C and a gross weight of 49,000 pounds, the chart V2 value is

A. 118 knots.
B. 120 knots.
C. 122 knots.

7032 (Ans. A)

Figure 321 shows the elevation of Eagle County Regional at 6,535 feet. Enter the chart in figure 471 at the bottom with the OAT of -5°C and read up to the 6,000 foot field elevation line. Then transfer horizontally to the reference line. At the reference line, transfer proportionally down and to the right to the diagonal reference line. Next read up and to the right to the vertical line representing 49,000 pounds. Finally read horizontally to the right to get 118 knots.

Answers B and C are incorrect but could be obtained by miss-plotting.

7033 PLT011
(Refer to figures 297 and 478) With a reported temperature of 25°C and a gross weight of 55,000 pounds, and a V1/VR ratio of 0.95, the accelerate-stop distance required is

A. 5,500 feet.
B. 4,300 feet.
C. 5,900 feet.

7033 (Ans. A)

Figure 297 shows the elevation of Albuquerque International at 5,355 feet. Enter the chart in figure 478 at the bottom with the OAT of 25°C and read up to the 5,355 foot field elevation line. Then transfer horizontally to the reference line. At the reference line transfer proportionally up and to the right to the vertical line representing 55,000 pounds. Next read horizontally to the right to the reference line. Then read proportionally down and to the left to the vertical line representing 0.95 V1/VR. Finally read horizontally to the right to get approximately 5,400 feet.

Answers B and C are incorrect but could be obtained by miss-plotting.

7038 PLT004
(Refer to figures 273 and 474) With a reported temperature of 45°C and a weight of 52,000 pounds, the first segment one engine inoperative takeoff gross climb gradient is

A. 0.020%.
B. 0.043%.
C. 0.032%.

7038 (Ans. B)

Figure 273 shows the elevation of Phoenix Sky Harbor International at 1,135 feet. No altimeter setting is provided so assume that field elevation equals pressure altitude. Enter the chart from the bottom left at an OAT of 45°C and read up to an estimated 1135 feet pressure altitude. Read horizontally across the chart to the weight reference line then read proportionally down and to the right to the takeoff weight of 52,000 pounds. Read horizontally to the right to get approximately 0.043%.

Answers A and C are incorrect but could be obtained by miss-plotting.

7039 PLT123
(Refer to figure 466) At a weight of 60,500 pounds with 5° of flaps, the $1.3V_{SR}$ speed is

A. 159 knots.
B. 148 knots.
C. 163 knots.

7039 (Ans. B)

Using the lower chart for 5° of flaps in figure 466 read up the chart from 60,500 pounds to the $1.3V_{SR}$ line and then read horizontally to the left to get 148 knots.

Answers A and C are incorrect but could be obtained by miss-plotting.

7040 PLT004
(Refer to figure 472) With a gross weight of 54,500 pounds, the final takeoff climb speed is

A. 142 knots.
B. 145 knots.
C. 148 knots.

7040 (Ans. B)
Enter the chart at the bottom at 54,500 pounds and read up to the reference line then horizontally to the left to get 145 knots.

Answers A and C are incorrect but could be obtained by miss-plotting.

7041 PLT011
(Refer to figures 297 and 481) With a reported temperature of 0°C, at 500 feet AGL after takeoff, and speed of 145 knots IAS, the radius of turn is

A. 6,650 feet.
B. 8,000 feet.
C. 9,700 feet.

7041 (Ans. B)
First add 500 feet to the 5,355 foot field elevation at Albuquerque to get 5,855 for the altitude. Enter the chart at the lower left at 0°C and read up to just under the 6,000 foot altitude line then read horizontally to the right to the reference line. Read up and to the right proportionally to get the 145 knot IAS speed line and then read horizontally to the right to get 8,000 feet for the turn radius.

Answers A and C are incorrect but could be obtained by miss-plotting.

7042 PLT004
(Refer to figures 273 and 475) With a reported temperature of 32°C, and a weight of 58,000 pounds, the second segment takeoff gross climb gradient is

A. 0.057%.
B. 0.062%.
C. 0.034%.

7042 (Ans. B)
Figure 273 shows the elevation of Phoenix Sky Harbor International at 1,135 feet. Enter the chart at the lower left at 32°C and read up to the 1,135 foot altitude line then read horizontally to the right to the reference line. Read down and to the right proportionally to get the 58,000 pound line and then read horizontally to the right to get a 0.062% climb gradient.

Answers A and C are incorrect but could be obtained by miss-plotting.