PRACTICE EXAM 7: FULL CFI SIMULATION (Q1–Q150)

FOI BLOCK — Q1–Q50

1. A student arrives at the briefing room exhausted from a night shift and acknowledges fatigue. Identifying fatigue as the failed item in IM SAFE, the instructor as PIC should:

A. Brief the student carefully, fly the lesson, and re-evaluate on landing

B. Reduce the scope of the lesson to ground school only and fly the same day

C. Continue with a quick refresher and let the student decide mid-flight

D. Reschedule the lesson, since the no-go decision applies regardless of self-report

2. A student has been working on crosswind landings for several lessons with continued inconsistency. Recognizing that practice deepens a mistake but corrects only a slip, the instructor should first:

A. Drill the maneuver until the inconsistency disappears

B. Pause landing practice entirely for at least 60 days

C. Switch runways until the wind changes direction

D. Diagnose whether the error is a slip in execution or a mistake in understanding

3. A student criticizes the new instructor's briefing by claiming the previous instructor "didn't know what they were talking about." Identifying the defense mechanism, the instructor should recognize this as projection and respond by:

A. Documenting the criticism and reassigning the student

B. Reducing threat and rebuilding a low-stress climate

C. Engaging the previous-instructor narrative to clarify

D. Insisting the student apologize for the comment

4. A first-lesson student expresses uncertainty about whether they "have what it takes." Combining the affective need for security with the law of effect, the instructor's most useful opening is to:

A. Confirm flight training is not for everyone and suggest reconsidering

B. Acknowledge the doubt, state a clear objective, and produce an early success

C. Promise an unconditional refund if the student does not solo in 30 days

D. Demonstrate every maneuver perfectly so the student can decide

5. A student can recite cruise checklist items but freezes when the instructor introduces a slight scenario variation. Recognizing the knowledge level, the instructor should target the student's:

A. Memorization, the shallowest level of knowledge

B. Application of well-developed concepts

C. Insight into broader connections

D. Concept formation across general principles

6. A student grasps cruise pitch-power-airspeed and uses the relationship immediately on approach. Naming the principle, the instructor identifies this as:

A. Negative transfer requiring corrective intervention

B. The law of recency operating alone

C. Positive transfer from prior cruise mastery

D. A defense mechanism protecting confidence

7. A student blames the airplane for an unstable landing. Identifying the defense mechanism and choosing the right move, the instructor should recognize:

A. Compensation, and direct the student to a strength elsewhere

B. Rationalization, and gently redirect to the student's control input

C. Repression, and rebuild the threat-free climate before debriefing

D. Reaction formation, and document the behavior

8. A student forgets the recovery sequence after a frightening unusual-attitude practice, despite having performed it correctly earlier. Recognizing the cause, the instructor identifies:

A. A defect in working memory unrelated to the event

B. A loss of motivation following the recovery

C. A medical condition requiring referral

D. Repression of the unpleasant material associated with the event

9. A student becomes visibly anxious before a first solo. Combining the principle that confidence precedes solo readiness with the laws of learning, the instructor should:

A. Insist on the original date to avoid feeding the anxiety

B. Restore an early success and confirm readiness from confidence

C. Substitute written homework in place of flight time

D. Cancel solo training and continue dual flights indefinitely

10. A student in a guided discussion says "I kind of get it" but cannot articulate the principle. Naming the method's strength, the instructor should:

A. Move forward to keep the lesson on schedule

B. Repeat the same explanation verbatim

C. Use guided-discussion questions to draw the principle from the student's experience

D. Skip the topic and reschedule for the next lesson

11. A student in a debrief takes notes only on praise and ignores corrections. Recognizing the pattern as a defense rather than an aptitude issue, the instructor should:

A. Stop offering corrections to match the student's preference

B. Ask the student to summarize the corrections in their own words

C. Document the pattern and reassign the student

D. Move past the pattern to keep the debrief positive

12. A student responds to repeated correction with denial, insisting the GPS track must be wrong. Identifying the defense mechanism and choosing the right move, the instructor should:

A. Continue the critique to demonstrate the requirement for resilience

B. Document the denial and end the lesson

C. Insist on a verbal apology for the GPS dispute

D. Reduce threat, rebuild the climate, and re-introduce the evidence calmly

13. A student insists that the instructor "didn't show me right" after botched stalls. Combining the defense-mechanism diagnosis with the corrective method, the instructor should:

A. Insist that the demonstration was correct

B. Document the projection and refer to chief

C. Acknowledge the comment, reset the affective climate, then re-demonstrate with explicit cues

D. Substitute power-on stalls for power-off stalls and proceed

14. A student during ground school challenges a regulation citation. Combining the integrity of citation discipline with active engagement, the instructor should:

A. Insist on the original citation to maintain authority

B. Welcome the challenge, look up the regulation together, and confirm

C. Concede the point to avoid friction

D. Document the challenge and refer to chief

15. A student says, "I just need the certificate — I don't care about understanding all this." Combining the integrated ACS model with the certificate's responsibilities, the instructor should:

A. Skip the integrated material to match the student's preference

B. Document the comment without correction

C. Explain that the ACS, the oral, and PIC responsibility all demand integrated understanding

D. Refer the student to a different instructor

16. A student in the development phase becomes silent and avoids eye contact during a guided discussion. Recognizing the disengagement and the method's needs, the instructor should:

A. Lecture for the remainder to fill the silence

B. Switch to a written quiz to bypass discussion

C. Document the silence and end the lesson

D. Pose an easy, specific entry-point question to re-engage

17. A student displays compensation by emphasizing strong radio work whenever airspeed control is mentioned. Identifying the mechanism and choosing the response, the instructor should:

A. Document the deflection and refer to chief

B. Address the airspeed-control issue gently while preserving confidence

C. Accept the deflection and proceed to another maneuver

D. Aggressively confront the student until they admit the weakness

18. A student arrives 20 minutes late repeatedly and unprepared. Naming the issue as a developing professionalism concern rather than a single lapse, the instructor should:

A. Document each occurrence without further action

B. Subtract the lateness from the next lesson billing

C. Address the pattern directly as a professionalism issue

D. End the training relationship immediately

19. A student asks the instructor to "skip the run-up" to make a tight schedule. Combining the run-up's safety function with the schedule as an external pressure under PAVE, the instructor should:

A. Skip the run-up to make the slot

B. Substitute a partial run-up to compromise

C. Document the request and refer to chief

D. Decline and use the request as an ADM teaching moment

20. A student insists the instructor's safety net excuses casual hazard awareness. Combining PIC responsibility with the affective domain, the instructor should:

A. Confirm the dual-control philosophy supports casualness

B. Replace the misconception by teaching PIC responsibility

C. Document the comment and refer to chief

D. Demonstrate by allowing a near-miss

21. A student announces, "I'm going to push on through this weather — the destination is only an hour away." Combining the hazardous-attitude framework with the PAVE category, the instructor identifies:

A. Anti-authority operating under a regulatory category

B. Macho operating under an aircraft category

C. Resignation operating under a pilot category

D. Get-there-itis (external pressure) under the PAVE framework

22. A student insists the certificate eliminates the need for further professional development. Combining the certificate's nature with the lifelong-learning principle, the instructor should:

A. Confirm the certificate eliminates further training

B. Recommend only Wings program activities

C. Replace the misconception with the "license to learn" framework

D. Direct the student to commercial training only

23. A student tightens a base-to-final overshoot with bottom rudder. Combining the stall-spin precursor recognition with the corrective action, the instructor should:

A. Treat the maneuver as a routine coordinated turn

B. Add power and allow the student to complete the landing

C. Document the maneuver and proceed to next pattern

D. Identify the stall-spin setup and instruct the go-around

24. A student's airman knowledge test shows 75% on the FIA. Combining the ACS-code mechanism with the practical-test reality, the instructor should:

A. Use the missed-item ACS codes to drive remedial study before endorsing

B. Endorse to keep the schedule, since 70% passes

C. Decline indefinitely until the student retakes the written

D. Endorse with a verbal warning to the examiner

25. A student in a pre-solo flight performs well but expresses anxiety about the solo itself. Combining the security-need framing with the law of effect, the instructor should:

A. Restore an early success and confirm readiness from confidence

B. Insist on the scheduled solo date regardless of anxiety

C. Substitute additional written work for the solo

D. Cancel solos and continue dual flights indefinitely

26. A student is observed flying the maneuvers more aggressively each lesson after a peer earned a certificate the previous week. Identifying the hazardous attitude and its antidote, the instructor should teach:

A. "Follow the rules. They are usually right."

B. "I'm not helpless. I can make a difference."

C. "Not so fast. Think first."

D. "Taking chances is foolish."

27. A student reads about a fatal accident and concludes "It won't happen to me." Combining the attitude identification with the corrective verbal antidote, the instructor should teach:

A. "Follow the rules. They are usually right."

B. "Taking chances is foolish."

C. "I'm not helpless. I can make a difference."

D. "It could happen to me."

28. Confronted with a student exhibiting impulsivity ("do something quickly"), the instructor should teach the paired antidote:

A. "Taking chances is foolish."

B. "Not so fast. Think first."

C. "I'm not helpless. I can make a difference."

D. "Follow the rules. They are usually right."

29. A student in the application phase identifies their own next priority for improvement. Naming the development this represents, the instructor should recognize:

A. Effective student self-assessment, the goal of the assessment cycle

B. A defense mechanism masking deeper insecurity

C. Excessive self-criticism to be redirected

D. A medical condition requiring referral

30. Asked why the airplane stalls in a steep turn at a higher airspeed than wings-level, a student answers, "Because we're closer to Vne." Combining the misconception diagnosis with the corrective teaching, the instructor should:

A. Replace the misconception with load-factor-and-AOA reasoning

B. Accept the answer to maintain student confidence

C. Document the misconception and refer to chief

D. Repeat the same question more loudly

31. A student is unable to articulate the principle behind a maneuver despite executing it well. Combining the knowledge-level diagnosis with the corrective method, the instructor should:

A. Move to the next maneuver since execution is correct

B. Document the gap and refer to chief

C. Use guided discussion to surface the underlying concept

D. Substitute additional written work for the maneuver

32. A student asks, "Why did you know what was going wrong before I said anything?" Combining the diagnostic principle with the affective opportunity, the instructor should:

A. Refuse to discuss instructor technique

B. Explain that observation, inference, and slip-vs-mistake diagnosis are teachable

C. Attribute the diagnostic ability to instinct

D. Suggest the student avoid such curiosity until commercial training

33. A student requests a solo endorsement before the instructor's pre-solo proficiency criteria are met. Combining the endorsement's certifying nature with the standard, the instructor should:

A. Endorse with a written caveat

B. Endorse for that day's wind condition only

C. Endorse to support the student's schedule

D. Decline until the criteria are met, regardless of pressure

34. A student during a debrief explains, "I just wasn't feeling it today." Combining the affective acknowledgment with the technical debrief, the instructor should:

A. Press the student to admit the real cause

B. Document the comment as evidence of anxiety

C. Acknowledge the feeling, then debrief specific errors observed

D. Accept the explanation and reschedule for a "better day"

35. A student during a stall demonstration whispers "I hate this maneuver" before entry. Combining the security need with the safety-critical nature of stall practice, the instructor should:

A. Pause, acknowledge, restore the climate, then proceed if the student is engaged

B. Continue the demonstration as planned

C. Skip stalls for the rest of training

D. End the lesson and reassign the student

36. A student during preflight finds a small but real maintenance discrepancy and asks, "Can we just fly it once?" Combining airworthiness discipline with the teaching moment, the instructor should:

A. Fly once as a teaching opportunity

B. Defer to the student's judgment

C. Discontinue the flight and teach airworthiness discipline

D. Document and fly the next day without repair

37. A student during a checkride-prep oral asks, "What if I forget a regulation?" Combining the ACS look-it-up habit with examiner expectations, the instructor should teach the student to:

A. Fake confidence and move on

B. Promise to call the examiner ahead

C. Consult the appropriate FAA publication during the oral

D. Rely on the examiner to provide the answer

38. A student during a guided discussion on weather decision-making is silent. Combining the discussion method's needs with the affective state, the instructor should:

A. Lecture for the remainder

B. Switch to a written quiz

C. End the lesson and document the silence

D. Pose an easy entry-point question to re-engage

39. A student insists on referring to maneuvers by a previous CFI's nickname terminology. Combining the examiner's standard usage with the student's preparation, the instructor should:

A. Substitute the nicknames in records

B. Alternate terminology to confuse the student

C. Document each occurrence as evidence of anxiety

D. Replace nicknames with FAA-standard terminology

40. A student in a power-on stall pulls the yoke aft when the warning sounds. Combining the diagnosis with the corrective drill, the instructor should:

A. Document the instinct as normal and proceed

B. Replace the instinct with deliberate practice of "release back pressure"

C. Accept that pulling harder will recover the stall

D. Substitute power-off stalls for the rest of the lesson

41. A student claims an over-the-counter cold medication is "safe for flight" because no prescription is required. Combining the regulatory framing with the safety reality, the instructor should:

A. Agree, since the medication is widely available

B. Document the claim and refer to chief

C. Replace the misconception by explaining that OTC status does not mean "safe for flight"

D. Substitute caffeine for the cold medication

42. A student says, "I'd rather not divert — the weather will probably hold." Combining the hazardous-attitude identification with the PAVE framework, the instructor should:

A. Identify the comment as resignation under a pilot category

B. Identify the comment as anti-authority under a regulatory category

C. Identify the comment as external pressure under PAVE

D. Identify the comment as a normal pilot deliberation

43. Of the laws of learning, the one most directly explaining why an instructor's first demonstration must be performed exactly to standard is the law of:

A. Recency, since material learned last is best remembered

B. Effect, since pleasant feelings strengthen learning

C. Exercise, since repetition strengthens memory

D. Primacy, since what is learned first creates a lasting impression

44. A student exposed to a sharp critique displays narrowed perception and degraded subsequent maneuvers. Combining the threat-perception principle with the corrective move, the instructor should:

A. Document the withdrawal and reassign the student

B. Continue the critique to build resilience

C. End the lesson immediately

D. Soften tone and restore a low-threat climate

45. A student demonstrates the ability to execute a maneuver flawlessly but refuses to consider an alternative technique. Combining the knowledge-level diagnosis with the transfer principle, the instructor should:

A. Diagnose rigidity in concept formation limiting transfer

B. Treat the mastery as complete and move on

C. Document the refusal as a defense mechanism

D. Refer the student to a medical examiner

46. A student in a debrief responds to every correction with "Yes, but..." Combining the deflection-pattern diagnosis with the corrective method, the instructor should:

A. End the lesson and reassign the student

B. Ask the student to summarize the corrections in their own words

C. Match the student's deflection style to reduce friction

D. Document the pattern without further action

47. A student during ground school says, "I'll just memorize the test questions." Combining the ACS integration with the practical-test reality, the instructor should:

A. Agree, since memorization passes the FIA

B. Explain that the integrated knowledge model of the ACS demands real understanding

C. Document the comment and refer to chief

D. Substitute the test prep book for ground school

48. A flight instructor's signature on a logbook endorsement legally indicates that the instructor has:

A. Personally determined the student meets the conditions specified

B. Informally observed the student over several lessons

C. Discussed the matter with the chief flight instructor

D. Heard from another instructor that the student appears ready

49. A student attempts to solo at a wind speed beyond the instructor's pre-solo limitation. Combining the endorsement's specific conditions with the instructor's authority, the instructor should:

A. Allow the solo and observe from the ground

B. Allow the solo with the wind acknowledged on the radio

C. Refuse the solo and explain the endorsement's specific conditions

D. Endorse a new wind limitation on the spot

50. A flight instructor's professional development obligations extend:

A. Throughout the instructor's career as the field evolves

B. Only to the year immediately after initial certification

C. Only to instructors employed at Part 141 schools

D. Only to the period before the first practical test endorsement

FIA BLOCK — Q51–Q150

51. A pilot in a level coordinated turn at 60° bank experiences a load factor of 2.0 G. Combining the load-factor relationship with the stall-speed-rises-with-√n principle, the stall speed in that turn relative to the 1-G stall speed is approximately:

A. 0.71 times

B. 1.0 times

C. 2.0 times

D. 1.41 times

52. A student says, "The wing always stalls at the same airspeed." Combining the misconception diagnosis with the corrective concept, the instructor should teach that:

A. The student's statement is essentially correct

B. The wing stalls at the same AOA regardless of weight, bank, or density altitude

C. The wing stalls only at low altitude

D. The wing stalls only at idle thrust

53. Angle of attack is best defined as:

A. The angle between the wing's chord line and the relative wind

B. The angle between the chord line and the longitudinal axis

C. The angle between the longitudinal axis and the horizon

D. The angle indicated by the airspeed indicator

54. Induced drag dominates:

A. At high airspeeds and low angles of attack

B. Only during normal cruise above maneuvering speed

C. At low airspeeds and high angles of attack

D. Only when the autopilot is engaged

55. Total drag on a typical light airplane is minimized at the airspeed corresponding to:

A. The never-exceed airspeed at the red line

B. The best lift-to-drag ratio in the current configuration

C. The top of the green arc maximum structural cruising speed

D. The maximum flap extension airspeed

56. Maneuvering speed (Va) at operating weights below maximum gross weight:

A. Decreases because a lighter airplane is accelerated more easily to limit G

B. Is identical to the published value, since Va depends only on altitude

C. Increases significantly because the structure is lightly loaded

D. Is no longer relevant because the structure has unlimited margin at light weight

57. A pilot encountering severe turbulence at cruise should:

A. Increase to Va plus a margin

B. Slow to Va to protect against structural overload from full control deflection

C. Disable the autopilot and accept whatever airspeed develops

D. Climb to a higher altitude regardless of clouds present

58. A spin requires two conditions present simultaneously:

A. Coordinated turn at maneuvering speed and full power

B. A stalled wing and the presence of yaw producing autorotation

C. Reduced visibility and partial loss of vacuum instruments

D. Wings-level flight at maneuvering speed and idle thrust

59. The PARE spin recovery sequence calls for:

A. Power idle, ailerons neutral, rudder opposite the rotation, elevator briskly forward

B. Power full, ailerons with the rotation, rudder neutral, elevator full back

C. Power smoothly to takeoff setting before any other change

D. Reduce throttle slightly, ailerons with the rotation, rudder neutral, elevator full back

60. Spin training in a typical general-aviation airplane is permissible only when the aircraft is:

A. Loaded to its aft center-of-gravity limit

B. Operated below 1,000 feet AGL

C. Filled to its maximum gross weight

D. Specifically certificated for intentional spins

61. The first action in the standardized stall recovery sequence is to:

A. Apply maximum allowable power before any other change

B. Retract all flaps to clean up the wing

C. Roll the airplane into a steep banked turn for energy recovery

D. Reduce angle of attack by lowering the pitch attitude

62. Ground effect on landing typically produces:

A. A reduction in induced drag that can cause float

B. An increase in induced drag requiring more power

C. A reversal of the elevator trim relationship

D. A sudden increase in maneuvering speed

63. Wingtip vortices behind a heavy aircraft are strongest when that aircraft is:

A. Light, dirty, and fast in a high-performance climb

B. Light, clean, and operating well above maneuvering speed

C. Heavy, fully configured for landing, and traveling at high speed

D. Heavy, clean (no flaps), and slow on approach or initial climb

64. Wake-turbulence avoidance behind a heavy aircraft on takeoff calls for the following aircraft to:

A. Take off as quickly as possible to overtake below the heavy

B. Rotate prior to the heavy aircraft's rotation point and climb above its flight path

C. Take off heading 90 degrees from the heavy's departure heading

D. Climb directly through the wake at a high angle of attack

65. A four-stroke reciprocating engine cycle proceeds in which sequence?

A. Compression, intake, exhaust, power

B. Intake, compression, power, exhaust

C. Exhaust, power, compression, intake

D. Power, exhaust, intake, compression

66. Carburetor ice can form under which atmospheric conditions?

A. Cold dry air well below freezing only at high altitude

B. Hot, dry desert conditions at low density altitude

C. Standard atmospheric conditions with very low humidity

D. A wide range of temperatures with visible moisture or high humidity

67. During a climb without mixture adjustment, the fuel-air mixture becomes:

A. Leaner because air density decreases relative to fuel flow

B. Unchanged because the carburetor self-adjusts

C. Richer because air density decreases relative to fuel flow

D. Cleaner due to cooler combustion at altitude

68. A fuel-injected engine is immune to carburetor ice but is susceptible to:

A. Magneto failure during normal cruise

B. Vapor lock and a more sensitive hot-start procedure

C. Sudden electrical failure during engine start

D. Excessive prop pitch oscillation at low throttle

69. A blocked pitot tube with an open static port causes the airspeed indicator to:

A. Read consistently lower than true airspeed

B. Read true airspeed only in straight and level flight

C. Behave like an altimeter, reading high in a climb and low in a descent

D. Remain stuck at the airspeed at the moment of blockage

70. A blocked static port (with pitot clear) causes the altimeter and vertical speed indicator to:

A. Freeze, with the airspeed reading also becoming unreliable

B. Continue functioning normally

C. Reverse readings during climb and descent

D. Display an inverted scale until ground reset

71. A magneto check during run-up showing an RPM drop on a single magneto exceeding the manufacturer's allowable maximum indicates:

A. A faulty ignition component requiring correction before flight

B. A normal indication requiring no further action

C. An over-rich mixture from low density altitude

D. A blocked pitot tube affecting the indicator

72. Wing contamination such as frost or ice:

A. Has no effect because lift depends only on airspeed

B. Reduces stall speed proportional to thickness

C. Automatically increases maneuvering speed limits

D. Increases stall speed and degrades takeoff and climb performance

73. ARROW captures the documents required aboard a civil aircraft. The R stands for:

A. Registration certificate for the aircraft

B. Radio communication record

C. Repair station authorization

D. Runway analysis approval

74. An annual inspection is required for all civil aircraft every:

A. 6 calendar months regardless of utilization

B. 12 calendar months from the previous annual

C. 50 flight hours regardless of calendar time

D. 24 calendar months at IFR certification cycles

75. A 100-hour inspection is required in addition to the annual when an aircraft is:

A. Operated only under VFR in good weather

B. Stored in a hangar between training flights

C. Owned by an individual rather than a flight school

D. Used for hire or for flight instruction in an instructor-provided aircraft

76. Class B airspace requires:

A. Two-way radio communication only, no explicit clearance

B. An explicit ATC clearance to enter

C. No communication requirement under VFR

D. A first-class medical certificate

77. Class C airspace requires:

A. An explicit ATC clearance to enter

B. No communication requirement under VFR

C. Two-way radio communication established before entry

D. A first-class medical certificate

78. To carry passengers under Part 91, a pilot must have completed three takeoffs and landings within the preceding:

A. 90 days in the same category, class, and (if a type rating is required) type

B. 12 calendar months in any aircraft for which the pilot is rated

C. 24 calendar months in any aircraft regardless of category and class

D. 30 days in the same category of aircraft regardless of class

79. A flight review under 14 CFR §61.56 must be completed within the preceding:

A. 6 calendar months and must include 30 minutes of ground training

B. 36 calendar months and must include 3 hours of ground training

C. 12 calendar months and must include a written knowledge test

D. 24 calendar months and must include at least 1 hour of ground and 1 hour of flight

80. A flight instructor's recency-of-experience requirements under 14 CFR §61.197 are evaluated over the preceding:

A. 12 calendar months with mandatory annual checkride

B. 6 calendar months with monthly recurrent training

C. 36 calendar months with a Part 142 training course

D. 24 calendar months with several alternative satisfaction options

81. 14 CFR §91.3 establishes the pilot in command as:

A. Required to share command decisions equally with passengers

B. Bound to ATC instructions even in declared emergencies

C. Directly responsible for, and the final authority over, the operation

D. Permitted to delegate command authority to any qualified passenger

82. Hypoxic hypoxia is caused by:

A. Reduced blood oxygen-carrying capacity from carbon monoxide

B. Inadequate blood circulation due to G-forces or cold

C. Cellular inability to use oxygen, as caused by alcohol

D. Insufficient oxygen partial pressure reaching the blood at altitude

83. The black-hole illusion most commonly occurs during:

A. A high-altitude cruise leg in clear daytime conditions

B. A night approach over featureless or unlit terrain

C. A run-up at the end of a paved runway

D. An IFR approach in instrument meteorological conditions

84. Spatial disorientation is best described as:

A. A condition fully prevented by adequate ventilation

B. A regulatory restriction limited to night VFR

C. A normal sensation that should be ignored

D. The inability to determine position, attitude, and motion relative to earth

85. The IM SAFE personal self-assessment checklist evaluates:

A. Instruments, mixture, switches, altimeter, flaps, electrical

B. Inertia, magnetism, signal, audio, fuel, engine

C. Inspection, maintenance, sealing, airworthiness, fuel, equipment

D. Illness, medication, stress, alcohol, fatigue, emotion

86. Atmospheric stability is most directly determined by:

A. The geographic latitude of the air mass

B. The lapse rate at which temperature decreases with altitude

C. The total water vapor present in the air

D. The surface elevation beneath the air mass

87. A cold front typically produces:

A. A wide band of stratus and prolonged steady precipitation

B. A narrow band of intense, brief weather with a sharp wind shift

C. Smooth conditions with unlimited visibility for many hours

D. Persistent fog with no significant wind shift

88. A warm front typically produces:

A. A narrow band of intense thunderstorms over a short duration

B. Cool dry air with scattered fair-weather cumulus only

C. A wide band of stratus, prolonged steady precipitation, and low ceilings

D. Severe clear-air turbulence above 20,000 feet only

89. The most violent stage of a thunderstorm's life cycle, with updrafts and downdrafts coexisting alongside lightning, hail, and the strongest gust front, is the:

A. Cumulus stage, marked by building updrafts

B. Mature stage, beginning when precipitation reaches the surface

C. Pre-cumulus stage, marked by rising temperatures

D. Dissipating stage, dominated by weakening downdrafts

90. Structural icing requires which two conditions simultaneously?

A. Visible moisture and aircraft surface temperatures at or below freezing

B. High humidity and outside temperatures well above freezing

C. Light precipitation and a stable atmospheric layer

D. Smooth airflow and clear skies above the aircraft

91. Thunderstorm development requires three simultaneous ingredients:

A. Stable air, dry conditions, and gentle vertical motion

B. Smooth winds, an inversion layer, and clear skies

C. Sufficient moisture, an unstable lapse rate, and a lifting mechanism

D. Cool surface temperatures, low humidity, and high pressure

92. AIRMET Zulu advises pilots specifically of:

A. Icing conditions and freezing levels along the route

B. Severe convective activity producing thunderstorms

C. Mountain obscuration affecting VFR operations only

D. Strong surface winds and low-level turbulence

93. AIRMET Sierra advises pilots specifically of:

A. Icing conditions and freezing levels at all altitudes

B. IFR conditions and mountain obscuration

C. Severe convective activity producing thunderstorms

D. Strong surface winds and low-level turbulence

94. AIRMET Tango advises pilots specifically of:

A. Icing conditions and freezing levels at all altitudes

B. Severe convective activity producing thunderstorms

C. Turbulence and strong surface winds at low levels

D. IFR conditions and mountain obscuration

95. A Convective SIGMET specifically advises pilots of:

A. Severe convective weather including thunderstorms producing tornadoes

B. Routine moderate turbulence at all altitudes along airways

C. Low-level wind shear advisories at non-towered airports

D. Forecast visibilities below 1 mile without precipitation

96. A METAR is most accurately described as:

A. A routine observation of current weather at an airport

B. A 24-hour forecast of expected conditions at the airport

C. A warning of severe convective activity along airways

D. A long-range outlook covering an entire flight corridor

97. A pilot report (PIREP) is uniquely valuable because it:

A. Replaces the need for METARs and TAFs along the route

B. Describes conditions actually encountered in flight by other pilots

C. Is generated automatically by satellites

D. Provides a binding legal forecast that ATC must enforce

98. During flight planning with no prior information about the planned flight, the most comprehensive briefing type is the:

A. Outlook briefing valid for the next 12 hours

B. Abbreviated briefing covering only NOTAMs and ATC delays

C. Standard briefing covering adverse conditions through NOTAMs

D. NOTAM-only briefing requested directly from the tower

99. Mechanical turbulence is most likely produced by:

A. Strong winds flowing across irregular terrain or obstacles

B. A clear stable air mass over level terrain with light winds

C. A smooth jet stream at high altitude over the open ocean

D. A high-altitude inversion layer in still atmospheric conditions

100. A microburst encounter on approach typically produces, in sequence:

A. An increasing headwind, then a powerful downdraft, then a tailwind

B. A persistent crosswind from the right with no vertical component

C. A steady tailwind only with no downdraft component

D. Smooth conditions with a gradual airspeed decrease

101. Lateral stability — resistance to rolling around the longitudinal axis — is provided primarily by:

A. The vertical stabilizer acting as a weathervane against yaw

B. The elevator trim setting selected in cruise flight

C. The dihedral angle built into the wings

D. The location of the center of gravity along the longitudinal axis

102. Directional stability — resistance to yawing around the vertical axis — is provided primarily by:

A. The dihedral angle built into the wings

B. The elevator trim setting selected in cruise flight

C. The horizontal stabilizer and CG location combined

D. The vertical stabilizer acting as a weathervane against the relative wind

103. In a level coordinated turn, the force that actually turns the airplane is:

A. The horizontal component of the lift vector when banked

B. The increased thrust pointed into the turn

C. The drag from deflected ailerons on the outside wing

D. The rudder pressure applied in the direction of the turn

104. Compared to a forward CG, an aft CG within the certified envelope produces:

A. Higher stall speed and easier stall and spin recovery

B. No measurable change in handling characteristics

C. Lower stall speed and more difficult stall and spin recovery

D. Lower never-exceed speed and reduced wing area

105. An engine failure in flight calls for the priority of actions captured in which mnemonic?

A. Communicate, navigate, aviate

B. Navigate, communicate, aviate

C. Communicate, aviate, navigate

D. Aviate, navigate, communicate

106. The first action after an engine failure is to:

A. Tune the radio to 121.5 and declare an emergency

B. Open the cabin door for emergency egress

C. Establish best-glide airspeed

D. Pull the mixture to idle cutoff to prevent damage

107. A go-around from an unstabilized approach is most accurately described as:

A. A normal pilot decision initiated early when needed

B. An emergency reserved only for the final seconds before touchdown

C. A maneuver requiring explicit ATC clearance at all airports

D. A failure of approach planning to be avoided

108. A crosswind landing using the sideslip (wing-low) method requires the pilot to use:

A. Aileron away from the wind and rudder in the same direction

B. Aileron into the wind and rudder opposite to align with the centerline

C. Rudder only, with the wings held perfectly level throughout

D. Full back elevator with no rudder input on the rollout

109. In a standard left-traffic pattern, the leg flown parallel to the landing runway but in the opposite direction of landing is the:

A. Crosswind leg, perpendicular to the departure end of the runway

B. Downwind leg, parallel to the runway but opposite the takeoff direction

C. Base leg, perpendicular to the approach end of the runway

D. Upwind leg, climbing away from the departure runway

110. When teaching ground reference maneuvers, the central principle the student must understand is that:

A. Bank angle must vary with the wind to keep a planned ground track

B. Wind has no effect on the airplane once airborne

C. Bank angle should remain constant regardless of wind

D. The path through the air matters more than the path over the ground

111. A pilot encounters known icing in an aircraft not approved for flight into known icing. The correct response is to:

A. Continue at the planned altitude and increase cruise power

B. Exit the icing conditions immediately by altitude or course change

C. Slow to the bottom of the white arc to reduce accretion rate

D. Disable the pitot heat to verify icing severity

112. When teaching a primary student about angle of attack and stall, the most useful conceptual framing is that:

A. The airplane always stalls at the same airspeed regardless of conditions

B. The airplane stalls only when the throttle is reduced to idle

C. The airplane always stalls at the same angle of attack, but airspeed varies with conditions

D. The airplane stalls only at low altitude near the surface

113. A pilot relying on airspeed rather than angle of attack to manage stall margins is most likely to be surprised by an accelerated stall in:

A. Straight and level cruise above maneuvering speed

B. An idle descent below the green arc lower limit

C. A steep coordinated turn at low airspeed

D. A normal takeoff roll prior to rotation airspeed

114. A skidding cross-controlled base-to-final turn at low airspeed creates the conditions for:

A. A stall-spin accident in the traffic pattern

B. A normal go-around with no significant risk

C. A controlled short-field landing at a steep angle

D. A maneuver fully prevented by modern stall warning horns

115. A student during a power-on stall pulls the yoke aft when the warning sounds. The instructor should most likely diagnose:

A. A pitot system malfunction producing false stall warnings

B. A jammed elevator preventing forward yoke movement

C. A stress-driven pull-back rather than the trained AOA reduction

D. A normal recovery exactly as the manufacturer specifies

116. Hypoxia degrades a pilot's judgment:

A. Only at altitudes above 25,000 feet regardless of individual

B. Only after the pilot recognizes the impairment

C. After all crew don supplemental oxygen

D. Before the pilot recognizes the impairment, which is the danger

117. Alcohol consumption affects flight safety even after the legal minimum waiting period because:

A. The regulatory waiting period was designed to allow full elimination

B. Alcohol's effects pass entirely with adequate sleep

C. Caffeine and alcohol cancel each other out completely

D. Lingering effects and hangover symptoms can persist beyond the legal floor

118. A pilot taking an over-the-counter cold medication should recognize that:

A. Over-the-counter status does not mean "safe for flight"

B. The medication is safe because no prescription is required

C. A double dose will clear symptoms before flight

D. Such medications are prohibited the entire calendar year

119. Negative transfer of learning occurs when:

A. Earlier learning aids the acquisition of a new skill

B. The student transitions smoothly between two aircraft types

C. Earlier learning interferes with the acquisition of a new skill

D. The student is rewarded for completing a difficult lesson

120. A constant-speed propeller allows the pilot to:

A. Set RPM independently of throttle position to optimize performance

B. Eliminate manifold pressure management at altitude

C. Bypass the magnetos during cold engine starts

D. Operate without an RPM gauge in the cockpit

121. Carburetor heat applied during run-up and producing a slight RPM drop indicates:

A. Heated air reaching the carburetor, which is the desired result

B. A defective magneto requiring grounded-out troubleshooting

C. A blocked fuel injection nozzle restricting fuel flow

D. A failure of the carburetor heat system to deliver warm air

122. Maneuvering speed (Va) is best defined as the maximum airspeed at which:

A. The airplane may be flown in any condition including severe icing

B. The autopilot may remain engaged during turbulence

C. Full deflection of a single control will not exceed the structural limit

D. Maximum landing flap extension is permitted on final approach

123. When demonstrating a maneuver to a primary student, the instructor should:

A. Add deliberate imperfections so the student feels free to err

B. Provide commentary unrelated to the maneuver

C. Skip the explanation phase if time is short

D. Perform the maneuver exactly to the standard the student must reach

124. A flight instructor providing instruction in an instructor-provided aircraft must ensure the aircraft has both a current annual inspection and a current:

A. Pitot-static inspection regardless of operation type

B. Transponder inspection regardless of operation type

C. Flight review for the instructor's currency

D. 100-hour inspection cycle

125. The flight instructor recency rule under §61.197 lives in:

A. 14 CFR Part 61 Subpart H, governing flight instructors

B. 14 CFR Part 43, governing maintenance

C. 14 CFR Part 67, governing medical certification

D. 14 CFR Part 71, governing the structure of airspace

126. A solo endorsement for a specific make and model certifies that the student:

A. Has received the required training and is proficient to solo that make and model

B. Is the legal minimum age for a commercial certificate

C. Has paid all training fees through the end of the rating

D. Holds a current first-class medical certificate

127. The antidote to the hazardous attitude of resignation ("What's the use?") is:

A. "Follow the rules. They are usually right."

B. "Taking chances is foolish."

C. "I'm not helpless. I can make a difference."

D. "Not so fast. Think first."

128. The antidote to the hazardous attitude of impulsivity ("do something quickly") is:

A. "Not so fast. Think first."

B. "Follow the rules. They are usually right."

C. "Taking chances is foolish."

D. "I'm not helpless. I can make a difference."

129. The antidote to the hazardous attitude of macho ("I can do it") is:

A. "Taking chances is foolish."

B. "Not so fast. Think first."

C. "Follow the rules. They are usually right."

D. "I'm not helpless. I can make a difference."

130. The antidote to the hazardous attitude of anti-authority ("Don't tell me") is:

A. "Taking chances is foolish."

B. "Not so fast. Think first."

C. "I'm not helpless. I can make a difference."

D. "Follow the rules. They are usually right."

131. A pilot's airman knowledge test report shows a 75% score on the FIA. From the examiner's perspective during the upcoming practical test, this score:

A. Increases the number of ACS codes the examiner must revisit during the oral

B. Eliminates the oral portion entirely

C. Results in a reduced fee for the practical test

D. Has no effect on the upcoming practical test conduct

132. An effective lesson plan is best characterized as:

A. A rigid script that must be followed lesson-by-lesson

B. A regulatory document submitted to the FAA annually

C. A flexible guide supporting the lesson's objective and adapting to the student

D. A list of regulations the student must memorize

133. A flight review under §61.56 must include at least:

A. 30 minutes of ground training and 30 minutes of flight training

B. 1 hour of ground training and 1 hour of flight training

C. 3 hours of ground training and 3 hours of flight training

D. 6 hours of ground training with no flight time required

134. Required documents that must be aboard a civil aircraft for legal flight are remembered by the mnemonic:

A. CARES: Certificate, Aircraft data, Registration, Equipment list, Standards

B. FREES: Fuel records, Repair records, Equipment, Endorsements, Standards

C. POWER: Pilot certificate, Operating manual, Weight, Equipment, Registration

D. ARROW: Airworthiness, Registration, Radio (when required), Operating limitations, Weight and balance

135. A pilot conducting VFR night operations must ensure the aircraft has functioning:

A. Pitot heat and oxygen system regardless of altitude

B. A second altimeter cross-referenced to the primary

C. A constant-speed propeller regardless of engine type

D. Position lights, anti-collision lights, and an electrical source

136. Wing flaps deployed to a landing position generally:

A. Lower the stall speed and improve low-speed handling for landing

B. Disable the stall warning system during the landing phase

C. Eliminate the need for rudder coordination during the approach

D. Reduce induced drag while increasing parasite drag dramatically

137. A pilot at high density altitude in a normally aspirated airplane will most directly experience:

A. Improved climb performance due to thinner intake air

B. Reduced engine power and longer takeoff distance

C. Increased maneuvering speed and improved acceleration

D. Reduced fuel consumption due to leaner mixture

138. Within an instructor-led lesson, the conclusion exploits which law of learning?

A. The law of primacy, planting first impressions

B. The law of intensity, requiring a dramatic finish

C. The law of exercise, requiring extended practice

D. The law of recency, since material learned last is best remembered

139. Of the laws of learning, the one most directly explaining why teaching a maneuver correctly the first time is more efficient than fixing it later is the law of:

A. Recency, since material learned last is best remembered

B. Effect, since pleasant feelings strengthen learning

C. Primacy, since what is learned first creates a lasting impression

D. Exercise, since things repeated are best remembered

140. A skidding cross-controlled base-to-final turn at low airspeed creates the conditions for:

A. A controlled short-field landing at a steep angle

B. A stall-spin accident in the traffic pattern

C. A normal high-energy go-around

D. A maneuver fully prevented by modern stall warning horns

141. A pilot reading a forecast indicating an advancing warm front along the planned route at the planned arrival time should expect:

A. A narrow band of intense thunderstorms with brief gusty winds

B. Cool dry air with unlimited visibility and fair-weather cumulus

C. A wide band of stratus, prolonged steady precipitation, and low ceilings

D. Severe clear-air turbulence above 20,000 feet only

142. Asked why an airplane is more difficult to recover from a stall with an aft CG, a student answers, "Because it's heavier in the back." The instructor's correct response is to:

A. Accept the answer to maintain confidence

B. Document the misconception and refer to chief

C. Replace the misconception by explaining the reduced natural nose-down pitching moment with an aft CG

D. Substitute "tail-heavy" for "aft CG" going forward

143. A pilot at maneuvering speed (Va) at a lighter operating weight (well below maximum gross) finds that:

A. Va is significantly higher than the published value

B. Va is lower than the published value

C. Va is identical to the published value

D. Va is no longer relevant because the structure has unlimited margin

144. A pilot encountering known icing in an aircraft not certified for flight into known icing should:

A. Slow to the bottom of the white arc to reduce accretion rate

B. Exit the icing conditions immediately by altitude or course change

C. Disable the pitot heat to verify icing severity by airspeed

D. Increase cruise power to maintain speed and prevent stalling

145. A pilot conducting a magneto check observes the engine roughen when one magneto is selected. The most likely cause is:

A. A faulty ignition component such as a fouled plug or bad lead

B. A normal indication requiring no further action

C. An over-rich mixture from low density altitude

D. A blocked pitot tube affecting the airspeed indicator

146. A four-stroke reciprocating engine cycle proceeds in which sequence?

A. Compression, intake, exhaust, power

B. Intake, compression, power, exhaust

C. Power, exhaust, intake, compression

D. Exhaust, power, compression, intake

147. A pilot reading a forecast indicating an advancing cold front along the planned route at the planned arrival time should expect:

A. A wide band of stratus and prolonged steady precipitation

B. Cool dry air with unlimited visibility and fair-weather cumulus

C. A narrow band of intense weather with a sharp wind shift at passage

D. Severe clear-air turbulence above 20,000 feet only on the final leg

148. A student says, "Carburetor ice can only form when the OAT is below freezing." The instructor's correct response is to:

A. Agree, since freezing is the threshold for ice formation

B. Document the misconception and refer to chief

C. Replace the misconception by explaining that carburetor ice can form across a wide range of temperatures with sufficient moisture

D. Substitute "icing" for "carburetor ice" going forward

149. A pilot at maneuvering speed (Va) in heavy turbulence is most directly protected from:

A. Loss of fuel pressure during severe maneuvering events

B. Inadvertent autopilot disengagement on aileron input

C. Loss of radio communication with the air traffic controller

D. Structural damage from full deflection of a single flight control

150. A flight instructor's defining task in teaching aeronautical decision-making is to help the student:

A. Internalize a habit of honest hazard recognition and structured decisions

B. Memorize a fixed list of right answers for common emergencies

C. Avoid all flights in which weather is forecast to be variable

D. Rely on the instructor's guidance long after the certificate is earned

PRACTICE EXAM 7 – ANSWER KEY AND EXPLANATIONS

1. D — Fatigue is the "F" in IM SAFE, and a student who has just driven from a night shift has failed that item regardless of self-report. The instructor as PIC must apply the no-go decision, since the student's own judgment is compromised by the fatigue being assessed. Teaching that the rule applies when it is inconvenient is itself the lesson.

2. D — Repeated practice deepens a mistake (wrong concept) and refines only a slip (right intent, wrong execution). The instructor must diagnose which error is present before prescribing remediation. Drilling without diagnosis is the single most common reason students plateau.

3. B — Projection is the defense mechanism in which a person attributes their own shortcomings to others, such as blaming a prior instructor for the student's own knowledge gaps. The correct response is to reduce threat and rebuild a low-stress climate, not engage the previous-instructor narrative. Defense mechanisms signal stalled learning, not a defective student.

4. B — A first-lesson student's doubt is best addressed by acknowledging it (security need), stating a clear achievable objective (engaging cognition), and producing a small early success (engaging the law of effect). Dismissing the student, promising refunds, or front-loading perfect demonstrations all skip the affective work. Building confidence from a tangible win is the proven instructional move.

5. A — Memorization is the shallowest level of knowledge: the student can recite verbatim but cannot adapt to changed conditions because no underlying concept has formed. Understanding, application, and concept formation would produce the flexibility the student lacks. The instructor must push past rote recall toward comprehension.

6. C — Positive transfer occurs when earlier learning aids the acquisition of new learning, such as cruise pitch-power mastery supporting approach setup. The opposite is negative transfer. Naming the connection accelerates the transfer effect and builds the student's confidence in their growing skill set.

7. B — Rationalization is the defense mechanism in which a person substitutes a plausible-sounding but false reason for the real cause of a poor performance. The instructor neither argues nor accepts the airplane-blaming claim — both feed the defense. Gentle redirection to "let's look at what you input on the controls" addresses the real issue without threatening self-esteem.

8. D — Repression is the unconscious suppression of unpleasant or threatening material, and a frightening unusual-attitude practice is exactly the kind of event the mind buries. The pattern does not fit working-memory defects, motivation loss, or medical conditions. The response is to rebuild a low-threat environment before re-introducing the content.

9. B — A solo must be approached from a state of confidence and recent success, not anxiety. Insisting on the original date deepens the stress; substituting written work avoids the issue; canceling indefinitely undermines progression. Restoring an early success first lets the student arrive at the solo from genuine readiness.

10. C — Guided discussion draws the principle from the student's own experience, which builds durable understanding the student constructs rather than receives. Moving forward leaves the gap; repeating the same words verbatim does not address the failed transfer; skipping the topic guarantees its return. The method demands more preparation than a lecture, not less.

11. B — A student selectively absorbing praise and ignoring corrections is exhibiting a defense pattern that will limit growth. Asking the student to summarize corrections in their own words forces absorption without confrontation. Matching the student's preference would forfeit the corrective half of every debrief.

12. D — Denial is the defense mechanism in which a person refuses to accept an uncomfortable reality. The instructor neither continues the critique nor documents-and-ends — both miss the affective cause. Reducing threat and re-introducing the evidence calmly addresses the root rather than the symptom.

13. C — Projection is the defense mechanism in which a person attributes personal shortcomings to others. The corrective method combines threat reduction with explicit cue clarification, since the demonstration is not the actual issue. Insisting on the demonstration's correctness deepens the defense; chief-referral and maneuver substitution miss the moment.

14. B — A challenged regulation citation is a learning opportunity for both parties. Looking it up together models the right approach to regulatory questions: confirm with the source, not from memory. Insisting on the original citation or conceding for friction both teach the wrong lesson about how regulations are handled.

15. C — The ACS integrates knowledge, risk management, and skill within each task; the oral and the PIC role both require integrated understanding, not piecemeal memorization. Skipping the integrated material, documenting without correction, or referring away all forfeit the central teaching opportunity. Replacing the misconception is the instructor's job.

16. D — A silent, disengaged student in a guided discussion needs an easy, specific entry point — a question with a definable answer that re-engages without exposing them. Lecturing fills time without learning; switching to a quiz abandons the method; documenting and ending escalates inappropriately. Skilled facilitation lowers the bar back to where the student can step over it.

17. B — Compensation is the defense mechanism in which a person emphasizes a strength to mask a weakness. The instructor's response is to address the underlying weakness gently while preserving the student's confidence — not to confront aggressively or accept the deflection. Defense mechanisms are signals to reduce threat, not opportunities to escalate.

18. C — Chronic lateness and inadequate preparation are professionalism issues with safety implications downstream. Documenting without addressing the pattern teaches that the standard is negotiable; ending

the relationship is premature without an conversation; billing adjustments miss the underlying issue. Addressing the pattern directly is the right CFI move.

19. D — A student suggesting skipping the run-up to make a schedule is offering a real-time ADM teaching opportunity. The correct CFI response is to decline and use the moment to teach why the run-up matters, particularly under schedule pressure (external pressure under PAVE). Partial run-ups and chief-referrals miss the lesson at hand.

20. B — The instructor's safety net does not excuse the student from responsibility — the student is being trained to be PIC, and casualness around hazards is itself a hazardous attitude. Replacing the misconception by teaching the student's PIC role is the right move. Confirming the misconception or allowing a near-miss to occur are obviously wrong.

21. D — "Get-there-itis" is the textbook example of an external pressure under PAVE — schedule and expectation pressure overriding judgment. Anti-authority, macho, and resignation are hazardous attitudes, not external pressures. Identifying the pressure as external rather than internal points the student to the correct mitigation.

22. C — The certificate is a "license to learn" — professional development is a lifelong obligation in aviation given the constant evolution of knowledge, regulations, and best practices. Confirming the misconception, narrowing to Wings, or restricting to commercial training all miss the lifelong-learning principle. Replacing the misconception is the foundational FOI move.

23. D — A skidding, tightened base-to-final turn with bottom rudder is the classic precursor to a stall-spin accident in the traffic pattern — one of the deadliest fatal-accident profiles in general aviation. Treating it as routine, adding power, or documenting and proceeding all leave the lethal mechanism active. Recognizing the setup and instructing the go-around is the correct response.

24. A — The ACS codes from a missed-item knowledge test report identify exactly the topics the examiner must revisit during the oral. The instructor uses the codes to drive remediation and confirms understanding before endorsing — the 70% passing score is a regulatory floor, not a substitute for verified competence. Endorsement is a formal certification of readiness, not a schedule decision.

25. A — A solo must be approached from a state of confidence and recent success, not anxiety. Insisting on the date deepens the stress; substituting written work avoids the issue; canceling solos indefinitely undermines progression. Restoring an early success first lets the student arrive at the solo from genuine readiness.

26. D — Macho is the hazardous attitude marked by "I can do it" and the desire to demonstrate capability, triggered here by a peer's achievement. The antidote is the deliberate substitution of "Taking chances is foolish," taught by name. Each attitude has a specific antidote tied to its specific thought.

27. D — Invulnerability ("It won't happen to me") is paired with the antidote "It could happen to me." Each hazardous attitude has its specific antidote the pilot consciously substitutes. The FOI tests these pairings by name and pairing.

28. B — The antidote to impulsivity ("do something quickly") is "Not so fast. Think first." Each hazardous attitude has its specific paired antidote. The FOI and FIA both test these by name and exact pairing.

29. A — Effective student self-assessment — honest debrief plus identification of the next priority — is the goal of the assessment cycle and the foundation of safe post-rating flying. It should be reinforced, not redirected. A pilot who can self-assess accurately will keep improving long after the instructor is gone.

30. A — A steep turn raises stall speed because load factor — not proximity to Vne — increases the lift required, forcing the wing to reach its critical AOA at a higher airspeed. The student's misconception confuses two unrelated limits. Replacing it with load-factor and AOA reasoning is the central FOI/FIA correction on this topic.

31. C — Inability to articulate the underlying principle despite correct execution signals that the student is at a procedural level only — guided discussion is the proven method for surfacing the concept. Moving on leaves a transferable principle ungrasped; documenting without intervention misses the teaching moment; written work alone does not build the conceptual bridge.

32. B — The diagnostic ability the student noticed is learned through observation, inference, and the slip-vs-mistake framework — it is teachable. Sharing this builds the student's own diagnostic skill for self-assessment and future leadership. Refusing to discuss, attributing it to instinct, or deferring to commercial training all forfeit a valuable affective-domain teaching moment.

33. D — A pre-solo endorsement is a personal determination that the student meets the standard, full stop. Caveats, day-of-flight limitations, or schedule pressure do not justify endorsing short of the criteria. Holding the line is the instructor's protective discipline for the student and the certificate.

34. C — "I just wasn't feeling it" is an affective statement that deserves acknowledgment, but the technical errors observed are the actionable content of the debrief. Pressing for a "real cause" feels accusatory; documenting alone misses the lesson; accepting and rescheduling forfeits the learning. Acknowledge first, then debrief specifically.

35. A — A student's verbalized fear before a stall demonstration is a security-need signal that must be addressed before the maneuver proceeds. Pausing and acknowledging restores the climate; continuing without acknowledgment guarantees a threat response that prevents learning. Skipping stalls entirely abandons a safety-critical syllabus item; ending the lesson is excessive.

36. C — Discovering an airworthiness discrepancy and flying "just once" violates the basic airworthiness discipline the certificate represents. Treating it as a teaching moment about the discipline itself — not a one-time exception — embeds the right habit. Deferring to student judgment or flying later without repair both teach the wrong lesson.

37. C — The correct response to forgetting a regulation during the oral is to consult the appropriate FAA publication, demonstrating the right professional habit. Faking confidence, calling the examiner ahead, or relying on the examiner to provide answers all damage the candidate's integrity and the instructor's. Teaching the look-it-up habit is itself ACS-aligned preparation.

38. D — A silent, disengaged student in a guided discussion needs an easy, specific entry point. Lecturing fills time without learning; switching to a quiz abandons the method; ending the lesson escalates inappropriately. Skilled facilitation lowers the bar back to where the student can step over it.

39. D — FAA-standard terminology is what the examiner will use and what the student will encounter in every cockpit. Substituting nicknames in records or alternating terminology creates confusion. Replacing nicknames with standard terms is part of preparing the student for the actual test and operational environment.

40. B — Power-on stall training must replace the instinctive "pull harder" with the deliberate "release back pressure" habit. The instinct itself is normal and predictable; the corrective habit is not, and must be drilled until it becomes the default. Documenting the instinct as normal or substituting other stalls leaves the safety-critical reflex unbuilt.

41. C — Over-the-counter status does not mean a medication is safe for flight; many cold, allergy, and pain remedies carry warnings against operating machinery that apply fully to flying. Wide availability is not a safety endorsement; chief-referral and caffeine substitution miss the principle. Replacing the misconception is the central FIA correction.

42. C — Schedule pressure ("weather will probably hold") combined with destination focus is external pressure under PAVE — the "E" in the framework, encompassing schedules, expectations, and get-there-itis. It is distinct from a hazardous attitude (an internal psychological tendency). The mitigation is recognizing the external pressure and deliberately countering it.

43. D — The law of primacy states that what is learned first creates the strongest and most lasting impression, which is why an instructor's first demonstration must be performed exactly to standard. A sloppy first demonstration plants a habit that is costly to remove later. Primacy is the operational reason for "get it right the first time" discipline.

44. D — A withdrawn, degrading student has perceived threat in the learning environment, and a perceived threat narrows perception and blocks learning. Continuing the critique deepens the problem; reassignment is premature; ending the lesson is excessive. Softening tone and restoring a low-threat climate is the proven remedy.

45. A — Flawless execution paired with refusal to consider alternatives signals rigidity in concept formation — the student has memorized the recipe but cannot transfer the underlying principle to new situations. This is a knowledge-level limitation, not solid mastery. The instructor's job is to push toward genuine concept formation where transfer is possible.

46. B — "Yes, but..." is a deflection pattern that resists corrections at the affective level. Asking the student to summarize corrections in their own words forces absorption without confrontation. Matching the deflection style would forfeit the corrective half of every debrief.

47. B — The ACS integrates knowledge, risk management, and skill — a candidate who plans to "just memorize the test questions" has missed how the test actually works. Agreeing reinforces the

misconception; chief-referral and substituting the test prep book both miss the central teaching opportunity. Replacing the misconception is the instructor's job.

48. A — A flight instructor's signature on a logbook endorsement legally indicates that the instructor has personally determined the student meets the conditions specified by that endorsement. Informal observation, hearsay, and chief-instructor discussion do not substitute for personal determination. The instructor's certificate is on the line with every endorsement.

49. C — A pre-solo endorsement specifies the conditions under which the student is approved to solo, including any wind limitation the instructor has set. Allowing a solo beyond those conditions defeats the endorsement's purpose. Endorsing new limits on the spot under pressure undermines the standard the original endorsement represents.

50. A — Professional development is a continuing obligation throughout the instructor's career, because aviation knowledge, regulations, technology, and best practices evolve. The certificate is the beginning of professional development, not its endpoint. An instructor who stops learning quickly teaches outdated material and models complacency.

51. D — Stall speed at increased load factor follows $Vs(n) = Vs1 \times \sqrt{n}$. At 60° bank in a level turn, n = 2.0 G, so the stall speed is $\sqrt{2} \approx 1.41$ times the 1-G stall speed. This accelerated-stall relationship is the reason a steep turn at low airspeed is dangerous.

52. B — The airplane stalls at the same critical AOA regardless of weight, bank, or density altitude — only the airspeed at which that AOA is reached changes. The student's "same airspeed" statement is the airspeed-only misconception that fails in turns and contamination. Replacing it with AOA-centered thinking is the most important conceptual move in primary training.

53. A — Angle of attack is the angle between the wing's chord line and the relative wind — not the longitudinal axis, not pitch attitude, not airspeed. AOA is the variable that directly determines coefficient of lift and the stall. This precise definition is foundational; confusing it with pitch attitude is the root of many student misconceptions.

54. C — Induced drag arises as a byproduct of producing lift and dominates at low airspeeds, where high AOA is required to maintain altitude. Parasite drag dominates at high airspeeds. The crossover defines best lift-to-drag and best glide speed.

55. B — Total drag is minimized at the airspeed corresponding to the best lift-to-drag ratio, where induced and parasite drag intersect on the drag curve. This airspeed produces the best glide for distance and best endurance configurations. Vne, top of green arc, and max flap extension are operational limits, not drag minima.

56. A — Va decreases at operating weights below maximum gross weight, counterintuitively, because a lighter airplane is accelerated more easily by a given aerodynamic force and reaches limit G at a lower airspeed. The heavier the airplane, the higher its Va. The FIA tests this weight relationship reliably.

57. B — Slowing to Va in significant turbulence protects against structural overload from full control deflection, because at or below Va the wing stalls before exceeding the structural limit. Increasing airspeed or disabling autopilot are unsafe responses. Climbing without considering clouds invites IFR-encounter risk.

58. B — A spin requires two conditions simultaneously: a stalled wing and the presence of yaw producing autorotation. Without either ingredient the spin cannot develop. Recognizing the two-ingredient structure makes spin avoidance teachable — break either ingredient and the spin cannot occur.

59. A — The PARE recovery sequence is Power idle, Ailerons neutral, Rudder full opposite the rotation, Elevator briskly forward through neutral to break the stall. Each step is necessary and the order matters; the manufacturer's specific procedure for the airplane in use always governs. Aileron use during a spin can aggravate autorotation; the standard is neutral.

60. D — Spin training in a typical general-aviation airplane is permissible only when the aircraft is specifically certificated for intentional spins. Spinning a non-spin-certificated aircraft can produce an unrecoverable result. CG must also be within the certified envelope and sufficient altitude available for recovery.

61. D — The first action in the standardized stall recovery is to reduce angle of attack by lowering the pitch attitude, because nothing else recovers the wing once it is stalled. Adding power before reducing AOA can deepen the stall through the pitch-up tendency. Rolling wings level and adding power follow only after the wing is unstalled.

62. A — Ground effect reduces induced drag near the surface (within roughly one wingspan of the ground), which can cause the airplane to float on landing as the wing's apparent efficiency improves. The phenomenon is real and exam-tested. Managing the float is a primary landing-phase teaching point.

63. D — Wingtip vortices are strongest from heavy, clean (no flaps), and slow aircraft — the configuration of a large jet on approach or initial climb. The strength of the vortex is the source of induced drag and the wake that trails the airplane. Knowing the heavy-clean-slow signature directs wake-avoidance behavior precisely.

64. B — Wake-turbulence avoidance behind a heavy aircraft on takeoff calls for the following aircraft to rotate prior to the heavy aircraft's rotation point and climb above its flight path, staying above the descending wake. Taking off underneath, departing perpendicular, or penetrating at high AOA are unsafe. The principle is to stay above and upwind of where the wake will be.

65. B — A four-stroke reciprocating engine cycle proceeds intake, compression, power, exhaust — repeating continuously across the cylinders. Intake draws the mixture in, compression squeezes it, combustion produces the power stroke, and exhaust expels the burned gases. Memorizing the sequence supports diagnosing roughness and misfires.

66. D — Carburetor ice can form across a wide range of temperatures — including warm days — wherever sufficient moisture and the venturi effect cool the air below freezing inside the carburetor. It is not

restricted to obviously cold or dry conditions. The pilot's defense is carburetor heat applied per the manufacturer's procedure.

67. C — As the airplane climbs without mixture adjustment, air density decreases while fuel flow stays roughly the same, producing a progressively richer fuel-air mixture. Leaning restores the correct ratio and recovers efficiency and full available power. This is why mixture management is required cruise procedure at altitude.

68. B — A fuel-injected engine is immune to carburetor ice because no carburetor is present, but it has its own characteristic concerns including vapor lock and more sensitive hot-start procedures. Each system has unique teaching points the instructor must cover. The trade-off between systems is a recurring FIA topic.

69. C — A blocked pitot tube with an open static port causes the airspeed indicator to behave like an altimeter — reading high in a climb (as ambient static decreases while ram pressure is trapped) and low in a descent. This is the classic blocked-pitot signature the FIA tests reliably. Recognizing it allows the pilot to fall back on pitch-and-power references.

70. A — A blocked static port causes the altimeter and vertical speed indicator to freeze and renders the airspeed reading unreliable, because all three pitot-static instruments depend on accurate static pressure. The pilot must use the alternate static source if available. This is the classic blocked-static signature.

71. A — An RPM drop on a single magneto exceeding the manufacturer's allowable maximum indicates a faulty ignition component such as fouled spark plugs, defective magneto, or bad lead. It is not normal and requires correction before flight. The dual-magneto design provides flight redundancy, but each must be healthy at run-up.

72. D — Wing contamination — frost or ice — disrupts airflow, reduces the maximum coefficient of lift, raises the stall speed, and degrades takeoff and climb performance. The effect can be dramatic even from a thin layer. All contamination must be removed before flight, regardless of how minor it appears.

73. A — In ARROW, the R stands for Registration certificate, one of the documents required aboard a civil aircraft for legal flight. The other letters are Airworthiness certificate, Radio station license (when required), Operating limitations, and Weight-and-balance data. The pilot verifies ARROW during preflight; absence makes the flight unlawful.

74. B — The annual inspection is required for all civil aircraft every 12 calendar months from the previous annual, performed by an authorized inspector. An airplane without a current annual is not airworthy regardless of other inspections. The 12-calendar-month interval is exam-tested precisely.

75. D — A 100-hour inspection is required in addition to the annual when an aircraft is used for hire or for flight instruction in an instructor-provided aircraft. The annual covers the same scope and can substitute for a 100-hour, but a 100-hour cannot substitute for an annual. CFI candidates teaching in their own airplane must keep both cycles current.

76. B — Class B airspace, surrounding the busiest airports, requires an explicit ATC clearance to enter. Two-way radio communication alone is not sufficient; a transponder alone is not sufficient. The clearance requirement is what makes Class B the most controlled VFR-accessible airspace class.

77. C — Two-way radio communication must be established with ATC before entering Class C airspace, around moderately busy towered airports with radar approach control. Class B requires the additional explicit clearance; Class E and G have no entry-communication requirement for VFR. Establishing communication is not equivalent to a clearance.

78. A — To carry passengers under Part 91, a pilot must have completed three takeoffs and landings within the preceding 90 days in the same category, class, and (if a type rating is required) type of aircraft. Tailwheel and night passenger carriage add parallel requirements. The 90-day window is exam-tested precisely.

79. D — A flight review under §61.56 must be completed within the preceding 24 calendar months and include at least 1 hour of ground training and 1 hour of flight training with an authorized instructor. The review covers Part 91 rules and maneuvers appropriate to the pilot. The 24-month interval is the headline FIA fact.

80. D — A flight instructor's recency-of-experience requirements under §61.197 are evaluated over the preceding 24 calendar months, with several alternative options for satisfaction including renewal courses and additional rating checkrides. An instructor who fails to satisfy any option may not exercise instructor privileges until reinstated. The 24-month window matches the flight review interval.

81. C — §91.3 establishes the pilot in command as directly responsible for, and the final authority over, the operation of the aircraft. In an in-flight emergency, the PIC may deviate from any rule to the extent required to meet the emergency, reporting afterward as required. This authority is paired with full accountability.

82. D — Hypoxic hypoxia is caused by insufficient oxygen partial pressure reaching the blood, most commonly from reduced partial pressure at altitude. Hypemic involves reduced blood-carrying capacity (carbon monoxide), stagnant involves circulation problems, and histotoxic involves cellular inability to use oxygen (alcohol). Hypoxic hypoxia is the form pilots most directly manage through altitude discipline and supplemental oxygen.

83. B — The black-hole illusion occurs over featureless or unlit terrain at night, where the visual cues normally used to judge height on approach are missing. Pilots are tempted to descend low, producing landing-short accidents. The defense is reliance on instruments and a stabilized profile rather than the visual sight picture alone.

84. D — Spatial disorientation is the inability to determine one's position, attitude, and motion relative to the earth, arising from conflict among the body's orientation senses when visual reference is lost. It is not a sensation to ignore, a regulation, or a ventilation problem. The defense is trusting the flight instruments rather than the body's senses.

85. D — The IM SAFE personal self-assessment evaluates Illness, Medication, Stress, Alcohol, Fatigue, and Emotion. It is performed before every flight as an honest self-evaluation. A failed item should produce a no-go decision; teaching the affective habit of acting on the result is the instructor's responsibility.

86. B — Atmospheric stability is determined by the lapse rate — the rate at which temperature decreases with altitude. A steep lapse rate favors instability; a shallow or inverted lapse rate favors stability. Latitude, moisture amount, and surface elevation are separate factors that combine with stability to produce specific weather.

87. B — A cold front produces a narrow band of intense, brief weather with a sharp wind shift and temperature drop at frontal passage — cumulus, possible thunderstorms, gusty winds. Warm fronts produce wide bands of prolonged precipitation; smooth conditions and persistent fog do not match the cold-front signature. The narrow-and-intense pattern is uniquely the cold front.

88. C — A warm front produces a wide band of stratus, prolonged steady precipitation, and low ceilings extending hundreds of miles ahead of the surface front. Narrow thunderstorm bands are cold-front signatures; cool dry conditions are post-frontal high-pressure signatures. Warm-front weather is less violent but lasts much longer than a cold-front pass.

89. B — The mature stage of a thunderstorm begins when precipitation reaches the surface and is the most violent stage because updrafts and downdrafts coexist with heavy rain, lightning, hail, and the strongest gust front. The cumulus stage features updrafts only; the dissipating stage is dominated by weakening downdrafts. Mature-stage cells are unsurvivable for light aircraft attempting penetration.

90. A — Structural icing requires two conditions simultaneously: visible moisture (cloud or precipitation) and aircraft surface temperatures at or below freezing. Either alone does not produce icing. Recognizing icing through both requirements lets the pilot identify icing risk across the full range of conditions.

91. C — Thunderstorm development requires three simultaneous ingredients: sufficient moisture, an unstable lapse rate, and a lifting mechanism. All three must be present together; removing any one prevents development. Recognizing this lets the pilot anticipate convective activity from forecast products.

92. A — AIRMET Zulu advises pilots of icing conditions and freezing levels. AIRMET Sierra covers IFR and mountain obscuration; AIRMET Tango covers turbulence and strong surface winds. Each AIRMET type has a defined subject area instructors and pilots must know by name.

93. B — AIRMET Sierra advises pilots of IFR conditions and mountain obscuration affecting flight operations. AIRMET Tango covers turbulence and strong surface winds; AIRMET Zulu covers icing and freezing levels; convective activity is the Convective SIGMET subject. Each AIRMET type has a defined subject area pilots must know by name.

94. C — AIRMET Tango advises pilots of turbulence and strong surface winds at low levels. AIRMET Sierra covers IFR and mountain obscuration; AIRMET Zulu covers icing and freezing levels. Each AIRMET type has a defined subject area pilots must know by name.

95. A — A Convective SIGMET advises of severe convective weather — thunderstorms producing severe turbulence, hail, surface winds of 50 knots or more, and tornadoes. It is the strongest convective-weather warning short of a tornado watch. Routine turbulence, wind-shear advisories, and visibility warnings operate at lower thresholds.

96. A — A METAR is a routine observation of current weather at an airport, issued hourly with special reports as conditions change significantly. A TAF is the forecast counterpart; warning products and route forecasts differ in purpose. METARs answer the question "what is the weather right now at this airport?"

97. B — Pilot reports describe conditions actually encountered in flight by other pilots, uniquely valuable because they confirm or contradict the forecast picture from real airborne experience. They are not satellite-generated, do not replace METARs and TAFs, and are not binding forecasts. Pilots are professionally obligated to make PIREPs as well as read them.

98. C — A standard briefing is the comprehensive briefing requested when the pilot has not received prior information about a planned flight. It covers adverse conditions, synopsis, current conditions, forecast en-route and destination weather, alternates, winds aloft, NOTAMs, and ATC delays. Abbreviated briefings update existing information; outlook briefings cover flights six or more hours away.

99. A — Mechanical turbulence is produced by strong winds flowing across irregular terrain or obstacles, particularly on the leeward side of mountains and buildings. Stable air over level terrain, smooth jet streams, and inversion layers do not generate mechanical turbulence by their nature. Recognizing it lets the pilot anticipate rough air downwind of terrain features.

100. A — A microburst encounter on approach produces, in sequence, an increasing headwind (apparent performance gain), then a powerful downdraft, then a tailwind (performance loss). The pilot's natural reactions — reducing power for the gain, then over-correcting for the sink — are exactly wrong. Avoidance is the only defense for light aircraft.

101. C — Lateral stability — resistance to rolling around the longitudinal axis — is provided primarily by dihedral, the upward angle of the wings from horizontal. Dihedral causes a sideslipping airplane to roll back toward wings-level. Vertical stabilizer provides directional stability; trim and CG affect longitudinal stability.

102. D — The vertical stabilizer acts as a weathervane against the relative wind, providing directional stability around the vertical axis. Dihedral provides lateral stability; the horizontal stabilizer and CG location affect longitudinal stability; elevator trim sets pitch reference. Each axis has its own primary stabilizing surface.

103. A — In a coordinated turn, the horizontal component of the lift vector — produced when the wings are banked — provides the centripetal force that turns the airplane. The vertical component still supports weight, requiring increased total lift. Neither thrust nor rudder turns the airplane; bank does, with rudder coordinating the turn.

104. C — An aft CG within the certified envelope produces lower stall speed (the tail downforce required is reduced, lightening the effective wing load) and more difficult stall and spin recovery. The trade is

accepted for a slight cruise gain. Beyond the aft limit, spin recovery may be impossible — the aft limit is the safety-critical boundary.

105. D — Aviate, navigate, communicate is the priority order during an engine failure: fly the airplane first, navigate to a chosen field second, communicate with ATC third. Reversing this priority has killed pilots who talked on the radio while losing control. The mnemonic is taught as a reflex until it operates without conscious thought.

106. C — The first action after an engine failure is to establish best-glide airspeed, maximizing the time and distance available to evaluate options and act. Restart attempts, radio calls, and cockpit preparation follow only after the airplane is flying the optimal glide. Restart actions before establishing the glide consume the pilot's only fixed resource — time aloft.

107. A — A go-around is a normal pilot decision that should be initiated early when an approach is not stabilized or predictable. It is not a last-resort emergency, a clearance-requiring maneuver, or a sign of failure. Teaching the go-around as a default response prevents many landing-phase accidents.

108. B — The sideslip (wing-low) method uses aileron into the wind to control drift and rudder opposite to keep the longitudinal axis aligned with the runway centerline. The result is a controlled slip that tracks the centerline through touchdown. Aileron away from the wind would drift the airplane away from the centerline.

109. B — The downwind leg is parallel to the landing runway but flown in the opposite direction, typically at pattern altitude. Upwind is the leg paralleling the runway after departure; crosswind is perpendicular at the departure end; base is perpendicular at the approach end. Knowing the legs by name is required for traffic-pattern operations.

110. A — Ground reference maneuvers teach the student that bank angle must vary with the wind component to keep a planned ground track, because the airplane drifts with the wind while the desired path is fixed over the ground. The bank is steepest where groundspeed is highest. This wind-correction discipline is the maneuver's central teaching purpose.

111. B — When known icing is encountered in an aircraft not approved for flight into known icing, the only correct response is to exit the icing conditions immediately by altitude or course change. Continuing or slowing increases ice accumulation; disabling pitot heat is dangerous. Avoidance is the defense; exit is the response when avoidance has failed.

112. C — The most useful framing is that the airplane always stalls at the same angle of attack, but the airspeed at which the wing reaches that angle varies with weight, load factor, density altitude, configuration, and contamination. Teaching stalls as an airspeed event plants a misconception that fails in turns and contamination. AOA-centered thinking is the instructor's most important conceptual move.

113. C — A pilot relying on airspeed rather than AOA is most likely to be surprised by an accelerated stall in a steep coordinated turn at low airspeed, because load factor raises the stall speed above what the airspeed indicator suggests. Cruise, idle descent, and takeoff before rotation are not the surprise scenarios. Teaching AOA-centered thinking prevents this specific surprise.

114. A — A skidding cross-controlled base-to-final turn at low airspeed creates the conditions for a stall-spin accident in the traffic pattern — among the deadliest fatal-accident profiles in general aviation. It is not a safe go-around, a controlled short-field approach, or a maneuver the stall horn prevents. The prevention discipline is to recognize the setup and go around.

115. C — A student pulling the yoke aft when the stall warning sounds is exhibiting a stress-driven pull-back rather than the trained AOA reduction. Pitot malfunction, jammed elevator, and "normal recovery" do not fit the pattern. The correction is repeated controlled demonstrations and the verbal cue of "release back pressure."

116. D — Hypoxia degrades judgment before the pilot recognizes the impairment, which is the central danger of the condition. By the time symptoms might prompt concern, the impaired judgment caused by hypoxia may prevent the pilot from acting. The defense is anticipation — oxygen and altitude discipline — not symptom recognition.

117. D — Lingering effects and hangover symptoms can persist beyond the legal minimum waiting period after alcohol consumption, impairing a pilot who believes themselves fit. The regulatory waiting period is a legal floor, not a safety guarantee. Alcohol also aggravates hypoxia through histotoxic effects at altitude.

118. A — Over-the-counter status does not mean a medication is safe for flight; many cold, allergy, and pain remedies carry warnings against operating machinery that apply fully to flying. The pilot should understand the effects of any substance and the condition it treats before flight. "Available without prescription" is not a clearance for cockpit use.

119. C — Negative transfer occurs when earlier learning interferes with the acquisition of new learning, such as a habit appropriate to one aircraft causing errors in another. Smooth transfer between types is positive transfer; absent prior experience is no transfer at all; rewards are unrelated. Anticipating negative transfer helps the instructor anticipate where students will struggle.

120. A — A constant-speed propeller allows the pilot to set RPM independently of throttle position, with propeller pitch adjusting automatically to maintain the selected RPM. The pilot manages manifold pressure with the throttle and RPM with the propeller control. This enables optimization of climb, cruise, and descent that a fixed-pitch propeller cannot match.

121. A — Carburetor heat routes warm air to the carburetor, and a slight RPM drop during the run-up confirms that the heated air is reaching it — the heated air is less dense, producing the expected drop. No drop would suggest the heat system is not functioning. The check verifies the system before it is needed in flight.

122. C — Maneuvering speed (Va) is the maximum airspeed at which full deflection of a single control will not exceed the airplane's structural limit, because at or below Va the wing will stall before structural damage occurs. It is not an icing, autopilot, or flap-extension limit. Above Va, a sudden full-deflection input can produce structural damage.

123. D — The instructor's demonstration must be performed exactly to the standard the student is expected to reach, because the law of primacy makes the first model the most enduring. Deliberate imperfections plant errors; off-topic commentary distracts; skipping the explanation breaks the method's sequence. Instructor proficiency in the maneuver being demonstrated is non-negotiable.

124. D — An aircraft used for hire or for flight instruction in an instructor-provided airplane must have both a current annual inspection (the baseline for all civil aircraft) and a current 100-hour inspection cycle. The pitot-static and transponder inspections are required only for IFR or transponder operations, and the instructor's flight review is a separate matter from aircraft inspection.

125. A — The flight instructor recency rule under §61.197 lives in 14 CFR Part 61 Subpart H, which governs flight instructors. Part 43 covers maintenance, Part 67 covers medical, and Part 71 covers airspace structure. Knowing which part governs which subject is foundational regulatory navigation for the FIA.

126. A — A solo endorsement certifies that the student has received the required training and is proficient to solo the specific make and model of aircraft, based on the instructor's personal determination. Age, fee payment, and medical currency are separate matters not certified by this endorsement. The endorsement is the instructor's professional certification of solo readiness.

127. C — The antidote to resignation ("What's the use?") is "I'm not helpless. I can make a difference." Each hazardous attitude has its specific paired antidote that the pilot consciously substitutes. Recognizing the attitude is half the corrective work; deliberately applying its antidote completes it.

128. A — The antidote to impulsivity ("do something quickly") is "Not so fast. Think first." Each hazardous attitude has its specific paired antidote. The FOI and FIA both test these pairings by name.

129. A — The antidote to macho ("I can do it") is "Taking chances is foolish." Each hazardous attitude has its specific paired antidote that the pilot consciously substitutes. The FIA tests these pairings precisely.

130. D — The antidote to anti-authority ("Don't tell me") is "Follow the rules. They are usually right." Each hazardous attitude has its specific paired antidote that the pilot consciously substitutes. Recognizing the attitude is half the corrective work.

131. A — A 75% score on the FIA leaves a relatively large number of ACS codes the examiner must revisit during the oral portion, producing a longer and more probing oral exam. The score does not eliminate the oral, change fees, or have no effect. Higher written scores hand examiners fewer codes.

132. C — A lesson plan is a flexible guide that supports the lesson's objective and adapts to the individual student, not a rigid script or regulatory document. It serves the preparation step of the teaching process by ensuring the lesson has a clear objective, organized content, and connections to past and future learning. Flexibility-with-objective is what makes it useful.

133. B — A flight review under §61.56 must include at least 1 hour of ground training and 1 hour of flight training with an authorized instructor. The review must cover Part 91 rules and maneuvers appropriate to the pilot. Completion is logged with the instructor's endorsement.

134. D — ARROW captures the required-aboard documents: Airworthiness certificate, Registration, Radio station license (when required for international ops), Operating limitations (including the flight manual), and Weight-and-balance data. CARES, FREES, and POWER are not standard mnemonics. The pilot verifies ARROW during preflight; absence makes the flight unlawful.

135. D — VFR night operations require functioning position lights (red, green, white), an anti-collision light system, and an electrical source adequate to power them. Pitot heat is required only for IFR or flight into known icing; a second altimeter and a constant-speed propeller are not VFR night equipment requirements. Equipment list for night VFR is exam-tested directly.

136. A — Wing flaps deployed to a landing position lower the stall speed and improve low-speed handling, which is precisely why they are used for landing. They do not eliminate rudder coordination, disable the stall warning, or affect drag in the manner described in the wrong options. The stall-speed reduction is the safety benefit at approach airspeed.

137. B — A pilot at high density altitude in a normally aspirated airplane experiences reduced engine power (thinner intake air) and longer takeoff distance. Maneuvering speed, climb performance, and fuel consumption do not improve at altitude. The combined power-and-lift reduction is what makes hot-high-humid takeoffs hazardous.

138. D — The conclusion of a lesson exploits the law of recency, since what is learned last is best remembered. The introduction engages motivation, development builds known-to-unknown, and the conclusion locks in key points through summary. The full structure deliberately applies the laws of learning to each lesson.

139. C — The law of primacy holds that what is learned first creates the strongest and most lasting impression, which is why teaching a maneuver correctly the first time is more efficient than fixing it later. Unlearning a wrong technique and replacing it is far more costly than teaching correctly from the start. Primacy is the operational reason for "right the first time" discipline.

140. B — A skidding cross-controlled base-to-final turn at low airspeed creates the conditions for a stall-spin accident in the traffic pattern — among the deadliest fatal-accident profiles in general aviation. It is not a safe short-field approach, a normal go-around, or a maneuver the stall horn prevents. The prevention discipline is to recognize the setup and go around.

141. C — A warm front produces a wide band of stratus, prolonged steady precipitation, and low ceilings extending hundreds of miles ahead of the surface front. Narrow thunderstorm bands are cold-front signatures; cool dry conditions are post-frontal high-pressure signatures. Warm-front weather is less violent but lasts much longer than a cold-front pass.

142. C — An aft CG produces less natural nose-down pitching moment because the wing's lift line and the CG are closer together, reducing the restoring moment that drives AOA reduction in stall recovery. The student's "heavier in the back" framing is the common misconception. Replacing it with the pitching-moment explanation is the central FIA correction.

143. B — Va decreases at operating weights below maximum gross weight, counterintuitively, because a lighter airplane is accelerated more easily by a given aerodynamic force and reaches limit G at a lower airspeed. The heavier the airplane, the higher its Va. The FIA tests this weight relationship reliably.

144. B — When known icing is encountered in an aircraft not certified for flight into known icing, the only correct response is to exit the icing conditions immediately by altitude or course change. Continuing, slowing, or disabling pitot heat increases the danger. Avoidance is the defense; exit is the response when avoidance has failed.

145. A — A magneto check showing the engine roughen when one magneto is selected indicates a faulty ignition component such as a fouled plug or bad lead. It is not normal and requires correction before flight. The dual-magneto design provides flight redundancy, but each must be healthy at run-up.

146. B — A four-stroke reciprocating engine cycle proceeds intake, compression, power, exhaust — repeating continuously across the cylinders. Intake draws the mixture in, compression squeezes it, combustion produces the power stroke, and exhaust expels the burned gases. Memorizing the sequence supports diagnosing roughness and misfires.

147. C — A cold front produces a narrow band of intense, brief weather with a sharp wind shift and temperature drop at frontal passage — cumulus, possible thunderstorms, gusty winds. Warm fronts produce wide bands of prolonged precipitation; cool dry air is a post-frontal high-pressure signature; severe clear-air turbulence is unrelated to cold-front passage. The narrow-and-intense pattern is uniquely the cold front.

148. C — Carburetor ice can form across a wide range of temperatures — including warm days — wherever sufficient moisture and the venturi effect cool the air below freezing inside the carburetor. The freezing-OAT threshold is a common misconception that has caused fatal accidents. Replacing the misconception with the moisture-and-venturi explanation is essential.

149. D — Maneuvering speed (Va) is the maximum airspeed at which full deflection of a single control will not exceed the airplane's structural limit, because at or below Va the wing will stall before structural damage occurs. Above Va, severe turbulence or sudden control input can produce structural overload. Slowing to Va in significant turbulence protects the airplane structurally.

150. A — The instructor's defining task in teaching ADM is to help the student internalize honest hazard recognition and a structured decision habit, rather than memorize answers, avoid variable flights, or rely on the instructor. ADM is built through repeated practice in scenarios where the student must actually decide. The outcome is a pilot who decides honestly under pressure long after the rating is earned.