NOTE: Text that should be deleted from the outline is displayed with a line through the text. New text is shown with a blue background.

Because new questions have been added to this product in previous updates, the question numbers here may not exactly match the numbers in your book. If you have trouble following along, please see the previous updates from December 6, 2010, March 21, 2011, May 13, 2011, and June 10, 2011.

Study Unit 6 – Airspace and Airports

Page 238, Question 11: The following question is edited per an FAA public question release.

11. What is the maximum acceptable position tolerance for penetrating a domestic ADIZ overwater?
   A. Plus or minus 10 miles; plus or minus 10 minutes.
   B. Plus or minus 10 miles; plus or minus 5 minutes.
   C. Plus or minus 20 miles; plus or minus 5 minutes.

   Answer (C) is correct.  
   \textit{DISCUSSION:} The maximum acceptable tolerance for penetrating a coastal ADIZ occurs over water, where the tolerance is plus or minus five minutes from the estimated time over a reporting point or point of penetration and within 20 NM from the centerline of the intended track over an estimated reporting point or point of penetration. Answer (A) is incorrect. The maximum acceptable tolerance is plus or minus 20 NM; plus or minus 5 minutes (over water). Answer (B) is incorrect. This is the tolerance over land; however, the maximum acceptable tolerance occurs over water and is plus or minus 20 NM; plus or minus 5 minutes.

Study Unit 14 – Aviation Weather

Page 700, Subunit 14.10, 3. and 3.a.: The following outline material is added to support a new ATP test question.

14.10 HIGH-ALTITUDE WEATHER

1. The \textit{troposphere} is the layer from the surface to an average altitude of 7 mi., and it is characterized by an overall decrease of temperature with an increase in altitude.

2. The \textit{tropopause} is characterized by an abrupt change in temperature lapse rate.

3. In a standard atmosphere, the tropopause has a temperature of -56.5°C and a height of about 36,000 feet above the Earth.
   a. The temperature and altitude of the tropopause is always in flux, but generally, the temperature ranges between -55°C and -65°C.

3.4. Temperature and wind vary greatly in the vicinity of the tropopause, and maximum winds and narrow wind shear zones generally occur near the tropopause.
4. Maximum winds associated with the jet stream occur in the vicinity of breaks in the tropopause on the polar side of the jet core.

5. The jet stream typically occurs at the tropopause in an area of intensified temperature gradients.

6. The jet stream is usually to the north of surface lows and fronts.
   
   a. The jet stream is a riverlike flow of high-altitude wind that follows the planetary atmospheric wave patterns with speeds of 50 knots or more.
   
   1) Clear air turbulence associated with the jet stream is most commonly found in the vicinity of the tropopause.

7. The development of a surface low usually is south of the jet stream and moves nearer as the low deepens.
   
   a. The occluding low moves north of the jet stream, and the jet stream crosses the frontal system near the point of occlusion.

8. When high-level moisture is available, cirrus clouds form on the equatorial side of the jet stream.

9. A strong wind shear can be expected on the low-pressure side of a 100-kt. jet stream core.

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91. The tropopause is generally found when the free air temperatures are

   A. between -55° and -65° C.
   B. between -40° and -55° C.
   C. colder than -60° C.

Answer (A) is the best answer. (AvW Chap 13)

**DISCUSSION:** In a standard atmosphere, the tropopause has a temperature of -56.5°C and a height of about 36,000 feet above the Earth. While both the temperature and altitude ranges of the tropopause are quite large, this answer choice is the best answer to the question given its inclusion of the standard temperature for the tropopause.

Answer (B) is incorrect. In a standard atmosphere, the tropopause has a temperature of -56.5°C, which is outside of the range defined by this answer choice. Answer (C) is incorrect. In a standard atmosphere, the tropopause has a temperature of -56.5°C, which is warmer than the temperature defined by this answer choice.
Study Unit 17 – Aeromedical Factors and Aeronautical Decision Making (ADM)

Page 776, Subunit 17.7: The following new outline content is added to address the topic of ADM, which will now be tested on the ATP knowledge test. The study unit title is also changed to reflect the coverage of the new topic.

17.7 AERONAUTICAL DECISION MAKING (ADM)

1. Aeronautical decision making (ADM) can be defined as a systematic approach to the mental process used by pilots to consistently determine the best course of action in response to a given set of circumstances.

2. Risk management is the part of the decision-making process that relies on situational awareness, problem recognition, and good judgment to reduce risks associated with each flight.
   a. The four fundamental risk elements in the ADM process that comprise any given aviation situation are the
      1) Pilot
      2) Aircraft
      3) Environment
      4) Mission (type of operation)

3. One step in the ADM process for good decision making is to identify personal attitudes hazardous to safe flight.
   a. Examples of classical behavioral traps that experienced pilots may fall into are the compulsion to complete a flight as planned, the desire to please passengers, the pressure to meet schedules, and the determination to “get the job done.”
   b. At some time, many experienced pilots have fallen prey to dangerous tendencies or behavior problems that must be identified and eliminated, including
      1) Peer pressure
      2) Scud running
      3) Loss of positional or situational awareness
      4) Operating without adequate fuel reserves
   c. In order to gain a realistic perspective on your attitude toward flying, you should take a Self-Assessment Hazardous Attitude Inventory Test.
   d. ADM addresses the following five hazardous attitudes:
      1) Antiauthority -- “Do not tell me what to do!”
         a) EXAMPLE: During a stall recovery, the CFI allows the student to exceed maneuvering speed. An antiauthority attitude expressed by the CFI would be “The aircraft can handle a lot more than the maneuvering speed.”
      2) Impulsivity -- “Do something quickly!”
      3) Invulnerability -- “It will not happen to me.”
      4) Macho -- “I can do it.”
      5) Resignation -- “What is the use?”
4. In the ADM process, the first step in neutralizing a hazardous attitude is recognizing it.
   a. When you recognize a hazardous thought, you should label it as hazardous; then correct
      the attitude by stating the corresponding antidote.
   b. Hazardous attitudes, which contribute to poor pilot judgment, can be effectively
      counteracted by the appropriate antidote, as listed below.
      1) Antiauthority -- “Follow the rules. They are usually right.”
      2) Impulsivity -- “Not so fast. Think first.”
      3) Invulnerability -- “It could happen to me.”
      4) Macho -- “Taking chances is foolish.”
      5) Resignation -- “I am not helpless. I can make a difference.”

5. Success in reducing stress associated with crisis management in the cockpit begins by
   making a personal assessment of stress in all areas of your life.
   a. To help manage cockpit stress, you should try to relax and think rationally at the first sign
      of stress.

6. The DECIDE process consists of six elements to help provide a pilot a logical way of
   approaching ADM. These elements are to
   a. Detect
   b. Estimate
   c. Choose
   d. Identify
   e. D
   f. Evaluate

7. A flight instructor should begin teaching ADM when the student has the ability to control the
   airplane confidently during the most basic maneuvers.

Page 780, Subunit 17.7, Questions 22-38: The following new questions on ADM are added
based on the inclusion of this content as a tested topic on the ATP knowledge test.

17.7 Aeronautical Decision Making (ADM)

22. Aeronautical decision making (ADM) can be defined as a
   A. mental process of analyzing all available
      information in a particular situation, making a timely
      decision on what action to take, and when to take
      the action.
   B. decision making process which relies on good
      judgment to reduce risks associated with each
      flight.
   C. systematic approach to the mental process used by
      pilots to consistently determine the best course of
      action in response to a given set of circumstances.

Answer (C) is correct. (PHAK Chap 17)

DISCUSSION: Aeronautical decision making (ADM) is a
systematic approach to the mental process used by pilots to
consistently determine the best course of action in response
to a given set of circumstances.

Answer (A) is incorrect. Judgment, not ADM, can be
defined as a mental process of analyzing all available
information in a particular situation, making a timely
decision on what action to take, and when to take the action.

Answer (B) is incorrect. ADM relies not only on good
judgment but also on the importance of attitudes in the
decision-making process to reduce risks associated with each
flight.
23. Risk management, as part of the aeronautical decision making (ADM) process, relies on which features to reduce the risks associated with each flight?

A. Application of stress management and risk element procedures.
B. The mental process of analyzing all information in a particular situation and making a timely decision on what action to take.
C. Situational awareness, problem recognition, and good judgment.

Answer (C) is correct. (PHAK Chap 17)

DISCUSSION: Risk management is part of the ADM process which relies on situational awareness, problem recognition, and good judgment to reduce risks associated with each flight.

Answer (A) is incorrect. Risk management relies on situational awareness, problem recognition, and good judgment, not the application of stress management and risk-element procedures, to reduce the risks associated with each flight. Answer (B) is incorrect. Judgment, not risk management, is the mental process of analyzing all information in a particular situation and making a timely decision on what action to take.

24. What are the four fundamental risk elements in the aeronautical decision making (ADM) process that comprise any given aviation situation?

A. Situational awareness, risk management, judgment, and skill.
B. Pilot, aircraft, environment, and mission.
C. Skill, stress, situational awareness, and aircraft.

Answer (B) is correct. (PHAK Chap 17)

DISCUSSION: The four fundamental risk elements in the ADM process that comprise any given aviation situation are the pilot, the aircraft, the environment, and the mission (type of operation).

Answer (A) is incorrect. Risk management, not risk elements, is part of the decision-making process that relies on situational awareness, problem recognition, and good judgment to reduce the risks associated with each flight. Answer (C) is incorrect. Situational awareness is the accurate perception and understanding of all of the factors and conditions within the four fundamental risk elements (pilot, aircraft, environment, and mission) that affect safety before, during, and after the flight.

25. The aeronautical decision making (ADM) process identifies several steps involved in good decision making. One of these steps is

A. making a rational evaluation of the required actions.
B. identifying personal attitudes hazardous to safe flight.
C. developing a "can do" attitude.

Answer (B) is correct. (PHAK Chap 17)

DISCUSSION: The ADM process addresses all aspects of decision making in the cockpit and identifies several steps involved in good decision making. One of these steps is to identify personal attitudes hazardous to safe flight.

Answer (A) is incorrect. Making a rational evaluation of the required actions is a step in learning good decision making, not classical behavioral traps. Answer (C) is incorrect. The "can do," or macho, attitude is one of the personal hazardous attitudes to identify in the steps involved in good decision making.

26. Examples of classic behavioral traps that experienced pilots may fall into are to

A. promote situational awareness and then necessary changes in behavior.
B. complete a flight as planned, please passengers, meet schedules, and "get the job done."
C. assume additional responsibilities and assert PIC authority.

Answer (B) is correct. (PHAK Chap 17)

DISCUSSION: Pilots have been known to fall into a number of classic behavioral traps. Pilots, particularly those with considerable experience, as a rule always try to complete a flight as planned, please passengers, meet schedules, and do what it takes to "get the job done."

Answer (A) is incorrect. To promote situational awareness and then to make necessary changes in behavior are part of learning good decision making, not classical behavioral traps. Answer (C) is incorrect. Assuming additional responsibilities and asserting PIC authority are not examples of classical behavioral traps.
27. An experienced pilot trying to meet a schedule

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

Answer (C) is correct. (PHAK Chap 17)

DISCUSSION: The distraction of trying to meet the requirements of a schedule can cause a pilot, and even a flight crew, to miss key identifying factors and fall into common operational pitfalls.

Answer (A) is incorrect. The pilot in command is solely responsible for the successful and safe outcome of the flight. (S)he should not rely on or expect crew members to ensure safety, but rather (s)he should prevent the preoccupation and distraction of trying to adhere to a schedule. Answer (B) is incorrect. A pilot focused on meeting a schedule is more likely to stray from the side of caution because (s)he is distracted with meeting a demand rather than the overall safety of the flight.

28. All experienced pilots have fallen prey to, or have been tempted by, one or more of these dangerous tendencies or behavior problems at some time in their career. Select the answer that best describes these tendencies.

A. deficiencies in instrument skills and knowledge of aircraft systems or limitations.
B. peer pressure, scud running, loss of situational awareness, and operating with inadequate fuel reserves.
C. performance deficiencies due to stress from human factors such as fatigue, illness, or emotional problems.

Answer (B) is correct. (PHAK Chap 17)

DISCUSSION: All experienced pilots have fallen prey to, or have been tempted by, dangerous tendencies or behavior patterns. Some dangerous tendencies or behavior patterns, which must be identified and eliminated, include peer pressure, scud running, loss of situational awareness, and operating with inadequate fuel reserves.

Answer (A) is incorrect. Deficiencies in instrument skills and knowledge of aircraft systems or limitations are factors that increase cockpit stress, not dangerous tendencies and behavior patterns that must be eliminated in experienced pilots. Answer (C) is incorrect. Performance deficiencies due to stress from human factors such as fatigue, illness, or emotional problems are factors that increase stress, not dangerous tendencies or behavior patterns that must be eliminated in experienced pilots.

29. In order to gain a realistic perspective on one’s attitude toward flying, a pilot should

A. understand the need to complete the flight.
B. obtain both realistic and thorough flight instruction during training.
C. take a Self-Assessment Hazardous Attitude Inventory Test.

Answer (C) is correct. (PHAK Chap 17)

DISCUSSION: In order to gain a realistic perspective on one’s attitudes toward flying, a pilot should take a Self-Assessment Hazardous Attitude Inventory Test.

Answer (A) is incorrect. The need to complete a flight is a behavioral trap that must be eliminated, not a way to gain a perspective on one’s attitudes toward flying. Answer (B) is incorrect. While realistic and thorough flight instruction during training improves skills, it does not enable a pilot to gain perspective on his/her attitude toward flying.

30. Hazardous attitudes occur to every pilot to some degree at some time. What are some of these hazardous attitudes?

A. Antiauthority, impulsivity, macho, resignation, and invulnerability.
B. Poor situational awareness, snap judgments, and lack of a decision making process.
C. Poor risk management and lack of stress management.

Answer (A) is correct. (PHAK Chap 17)

DISCUSSION: The five hazardous attitudes addressed in the ADM process are antiauthority, impulsivity, invulnerability, macho, and resignation.

Answer (B) is incorrect. Poor situational awareness and snap judgments are indications of the lack of a decision-making process, not hazardous attitudes. Answer (C) is incorrect. Poor risk management and lack of stress management lead to poor ADM and are not considered hazardous attitudes.
31. Name some hazardous attitudes that can affect your judgment during the aeronautical decision making (ADM) process.
   A. Impulsivity, antiestablishment, and reevaluation.
   B. Antiauthority, impulsivity, and resignation.
   C. Peer pressure and stress levels.
   Answer (B) is correct. (PHAK Chap 17)
   DISCUSSION: The five hazardous attitudes that can affect your judgment during the ADM process are antiauthority, impulsivity, invulnerability, macho, and resignation.
   Answer (A) is incorrect. Reevaluation is not a hazardous attitude in the ADM process. Answer (C) is incorrect. While peer pressure and stress levels may be factors contributing toward hazardous attitudes in the ADM process, they are not attitudes themselves.

32. In the aeronautical decision making (ADM) process, what is the first step in neutralizing a hazardous attitude?
   A. Recognizing hazardous thoughts.
   B. Recognizing the invulnerability of the situation.
   C. Making a rational judgment.
   Answer (A) is correct. (PHAK Chap 17)
   DISCUSSION: Hazardous attitudes, which contribute to poor pilot judgment, can be effectively counteracted by redirecting that hazardous attitude so that appropriate action can be taken. Recognition of hazardous thoughts is the first step in neutralizing them in the ADM process.
   Answer (B) is incorrect. Invulnerability is a hazardous attitude. The first step in neutralizing a hazardous attitude is to recognize it. Answer (C) is incorrect. Before a rational judgment can be made, the hazardous attitude must be recognized then redirected so that appropriate action can be taken.

33. What should a pilot do when recognizing a thought as hazardous?
   A. Correct this hazardous thought by making a thorough risk assessment.
   B. Label the thought as hazardous and then correct that thought by stating the corresponding antidote.
   C. Avoid allowing this hazardous thought to develop.
   Answer (B) is correct. (PHAK Chap 17)
   DISCUSSION: When you recognize a hazardous thought, you should label it as hazardous; then correct the attitude by stating the corresponding antidote. Antidotes should be memorized for each of the hazardous attitudes so that they automatically come to mind when needed.
   Answer (A) is incorrect. The antidote for a resignation, not a macho, attitude is “I’m not helpless. I can make a difference.” Answer (C) is incorrect. While you do not want the hazardous thought to develop, the way to avoid this is to recognize and label the thought as hazardous and then correct it by stating the corresponding antidote.

34. Hazardous attitudes which contribute to poor pilot judgment can be effectively counteracted by
   A. an appropriate antidote.
   B. taking meaningful steps to be more assertive with attitudes.
   C. early recognition of these hazardous attitudes.
   Answer (A) is correct. (PHAK Chap 17)
   DISCUSSION: Hazardous attitudes, which contribute to poor pilot judgment, can be effectively counteracted by redirecting them so that appropriate action can be taken.
   When you recognize a hazardous thought, you should label it as hazardous; then correct the attitude by stating the corresponding antidote.
   Answer (B) is incorrect. You should respond to a hazardous attitude with an antidote, not with steps to be more assertive with attitudes. Answer (C) is incorrect. While the first step in neutralizing a hazardous attitude is recognition, to counteract the attitude you must state the appropriate antidote.

35. What is the antidote for a pilot with a “macho” attitude?
   A. I’m not helpless. I can make a difference.
   B. Follow the rules. They are usually right.
   C. Taking chances is foolish.
   Answer (C) is correct. (PHAK Chap 17)
   DISCUSSION: Pilots exhibiting a macho attitude will try to prove themselves by taking risks in order to impress others. When this hazardous attitude is recognized, the pilot should state the antidote “Taking chances is foolish.”
   Answer (A) is incorrect. The antidote for a resignation, not a macho, attitude is “I’m not helpless. I can make a difference.” Answer (B) is incorrect. The antidote for an antiauthority, not a macho, attitude is “Follow the rules. They are usually right.”
36. Success in reducing stress associated with a crisis in the cockpit begins with
   A. eliminating the more serious life and cockpit stress issues.
   B. knowing the exact cause of the stress.
   C. assessing stress areas in one's personal life.

Answer (C) is correct. (PHAK Chap 17)

DISCUSSION: If you hope to succeed in reducing stress associated with crisis management in the cockpit, it is essential to begin by making a personal assessment of stress in all areas of your life.

Answer (A) is incorrect. In order to eliminate the more serious life and cockpit stress issues, you must first make an assessment of stress in all areas of your life to identify those stressors. Answer (B) is incorrect. In order to know the exact cause of the stress, you must first make an assessment of stress in all areas of your life to identify stressors and the causes of them.

37. To help manage cockpit stress, a pilot should
   A. think of life stress situations that are similar to those in flying.
   B. try to relax and think rationally at the first sign of stress.
   C. avoid situations that will degrade the ability to handle cockpit responsibilities.

Answer (B) is correct. (PHAK Chap 17)

DISCUSSION: To help manage cockpit stress, you must condition (teach) yourself to relax and think rationally at the first sign of stress.

Answer (A) is incorrect. Many of the stress coping techniques practiced for life stress management are not practical in flight. Answer (C) is incorrect. Avoiding situations that will degrade a pilot's ability to handle cockpit responsibilities is considered a part of risk management, not cockpit stress management.

38. The DECIDE process consists of six elements to help provide a pilot a logical way of approaching aeronautical decision making. These elements are to
   A. estimate, determine, choose, identify, detect, and evaluate.
   B. determine, evaluate, choose, identify, do, and eliminate.
   C. detect, estimate, choose, identify, do, and evaluate.

Answer (C) is correct. (PHAK Chap 17)

DISCUSSION: The DECIDE model, comprised of six elements, is intended to provide a pilot with a logical way of approaching decision making. These six elements, using the acronym DECIDE, are detect, estimate, choose, identify, do, and evaluate.

Answer (A) is incorrect. One of the elements of the DECIDE process is “do,” not “determine.” Answer (B) is incorrect. Two of the elements of the DECIDE process are “detect,” not “determine,” and “estimate,” not “eliminate.”