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

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Study Unit 1 – NTSB Part 830, 14 CFR Parts 1, 61, 117, and 119

Page 34, Subunit 1.2, Question 19: This question was updated to match a recently released FAA sample exam.

19. The maximum speed during takeoff that the pilot may abort the takeoff and stop the airplane within the accelerate-stop distance is

   A. $V_2$
   B. $V_{REF}$
   C. $V_1$

Answer (C) is correct. (14 CFR 1.2)

DISCUSSION: $V_1$ means the maximum speed in the takeoff at which the pilot must take the first action (e.g., apply brakes, reduce thrust, deploy speed brakes) to stop the airplane within the accelerate-stop distance.

   Answer (A) is incorrect. $V_2$ is the takeoff safety speed, not the maximum speed during takeoff that the pilot may abort the takeoff and stop the airplane within the accelerate-stop distance.

   Answer (B) is incorrect. $V_{REF}$ means the speed at which the critical engine is assumed to fail during takeoff is the final approach speed used for landing, not the maximum speed during takeoff that the pilot may abort the takeoff and stop the airplane within the accelerate-stop distance.

Study Unit 7 – Air Traffic Control

Page 332, Subunit 7.5, New Question: The following question was added due to a sample exam released by the FAA. Subsequent questions were renumbered accordingly.

46. Which of the following reports should always be reported to ATC?

   A. Preferred runway choice to limit taxi time.
   B. When true airspeed (TAS) varies by 10 percent or 5 knots, whichever is less.
   C. When leaving an assigned holding fix.

Answer (C) is correct. (AIM Para 5-3-3)

DISCUSSION: A report should be made to ATC without a specific request when leaving any assigned holding fix or point.

   Answer (A) is incorrect. Reporting your preferred takeoff runway is not required, but you can make a request for a runway other than the one in use. Answer (B) is incorrect. Reporting is required for variations in average true airspeed exceeding 5% or 10 kt., not 10% or 5 kt.
Study Unit 15 – Aviation Weather

Page 842, Subunit 15.8, New Item 11.a.: New material was added to increase students’ knowledge base. Subsequent outline levels were relabeled accordingly.

   a. Airborne weather radar should be used to avoid severe weather.

Page 857, Subunit 15.6, New Question: The following question was added due to a sample exam released by the FAA. Subsequent questions were renumbered accordingly.

64. An increase in temperature with an altitude increase
   A. is indication of an inversion.
   B. denotes the beginning of the stratosphere.
   C. means a cold front passage.

Answer (A) is correct. (FAA-H-8083-25B Chap 12)

DISCUSSION: Normally, as air rises and expands in the atmosphere, the temperature decreases. However, when the temperature of the air rises with altitude, this indicates that a temperature inversion exists.

Answer (B) is incorrect. Although the temperature does begin to increase in the stratosphere, only specialized aircraft are likely to be able to operate high enough to see this change. Answer (C) is incorrect. A cold front passage does not always cause the temperature to increase with altitude. If it did, this would be an indication of an inversion.

Page 862, Subunit 15.8, New Question: The following question was added due to a sample exam released by the FAA. Subsequent questions were renumbered accordingly.

96. Airborne weather radar is installed to help the crew
   A. penetrate weather between storm cells.
   B. avoid severe weather.
   C. avoid storm turbulence and hail.

Answer (B) is correct. (FAA-H-8083-25B Chap 13)

DISCUSSION: Airborne radar is equipment carried by aircraft to locate and avoid severe weather.

Answer (A) is incorrect. Radar should not be used to penetrate storm cells. Instead, it should be used to locate and avoid dangerous weather. Answer (C) is incorrect. Radar shows the location and intensity of precipitation, but it does not directly detect turbulence.

Study Unit 17 – Wind Shear

Page 913, Subunit 17.3, New Item 4.: New material was added to increase students’ knowledge base.

4. Streamers of precipitation that evaporate before reaching the ground, known as virga, can indicate the presence of a microburst.

Page 922, Subunit 17.3, New Question: The following question was added due to a sample exam released by the FAA. Subsequent questions were renumbered accordingly.

42. As you approach an airport to land, you observe a convective cloud over the airport with virga below it. This could indicate
   A. smooth air.
   B. heavy rain showers.
   C. the presence of a microburst.

Answer (C) is correct. (FAA-H-8083-25B Chap 12)

DISCUSSION: Rain that falls through the atmosphere but evaporates prior to striking the ground is known as virga. The process of evaporation cools the air around the virga and can create strong downdrafts and in some cases microbursts.

Answer (A) is incorrect. Virga is often associated with strong downdrafts due to the cooling effect of evaporation. Therefore, the air around virga would be very turbulent, not smooth. Answer (B) is incorrect. Virga occurs when precipitation is not able to penetrate a layer of dry air and evaporates before it reaches the surface. Thus, heavy rain showers would not be indicated by virga.
Study Unit 18 – Aeromedical Factors and Aeronautical Decision Making (ADM)

Page 954, Subunit 18.8, New Question: The following question was added due to a sample exam released by the FAA.

91. CRM training was conceived to prevent accidents by
   A. highlighting technical crew performance.  
   B. improving crew performance through better crew coordination. 
   C. improving crew cooperation. 

   Answer (B) is correct. (AC 120-51E)

   DISCUSSION: The mission of crew resource management (CRM) training has always been to prevent aviation accidents by improving crew performance through better crew coordination.

   Answer (A) is incorrect. The goal of crew resource management (CRM) training is to improve communication between crewmembers, not to improve technical skills. Answer (C) is incorrect. Rather than simply improving crew cooperation, the mission of crew resource management (CRM) training is to prevent aviation accidents by improving crew performance through better crew coordination.