PRACTICE EXAM 33 SIMULATION

1. A pilot is cleared to hold at a fix on the inbound course of 360°, with standard right turns. The aircraft arrives heading 270°. Which holding entry is appropriate?

A. A direct entry, turning right to follow the outbound leg immediately

B. A parallel entry, paralleling the inbound course on the holding side

C. A teardrop entry, departing the fix at a 30-degree offset to the outbound

D. A direct entry, turning left to intercept the holding course outbound

2. A pilot must understand that the standard holding pattern uses turns in which direction?

A. The standard holding pattern uses left turns at the holding fix always

B. The standard holding pattern alternates left and right turns each circuit

C. The standard holding pattern uses right turns at the holding fix

D. The standard holding pattern direction is chosen by the pilot at the fix

3. A pilot entering a hold determines the entry by dividing the heading area around the fix into sectors. The parallel entry sector covers approximately what range?

A. The parallel entry sector covers approximately 70 degrees of the area

B. The parallel entry sector covers approximately 180 degrees of the area

C. The parallel entry sector covers approximately 90 degrees of the area

D. The parallel entry sector covers approximately 110 degrees of the area

4. A pilot flying a hold with a one-minute inbound leg at or below 14,000 feet must time the inbound leg how?

A. The inbound leg timing begins when crossing the holding fix abeam point

B. The inbound leg timing begins when the outbound turn is fully completed

C. The inbound leg timing begins when wings level inbound or abeam the fix

D. The inbound leg timing begins when first receiving the holding clearance

5. A pilot must understand that above 14,000 feet MSL, the standard holding inbound leg time is what?

A. The inbound leg should be timed for one minute above 14,000 feet MSL

B. The inbound leg should be timed for one and one-half minutes above 14,000 feet

C. The inbound leg should be timed for two minutes above 14,000 feet MSL

D. The inbound leg timing does not apply above 14,000 feet MSL at all

6. A pilot in a hold encounters a strong crosswind on the outbound leg. To maintain the pattern, the pilot should do what?

A. Ignore the wind entirely and fly precise headings throughout the pattern

B. Triple the drift correction on the inbound leg compared to the outbound

C. Apply drift correction on the outbound leg to compensate for the crosswind

D. Extend the outbound leg time regardless of the wind direction encountered

7. A pilot flying a teardrop entry departs the holding fix on a track offset from the outbound by what angle?

A. The teardrop entry uses a track offset of about 10 degrees from outbound

B. The teardrop entry uses a track offset of about 45 degrees from outbound

C. The teardrop entry uses a track offset of about 30 degrees from outbound

D. The teardrop entry uses a track offset of about 60 degrees from outbound

8. A pilot must understand that the holding fix's "holding side" is defined relative to the inbound course by what?

A. The side of the inbound course on which the turns and pattern are flown

B. The side opposite the turns where the protected airspace is not provided

C. The side determined by the prevailing wind direction at the holding altitude

D. The side facing the destination airport from the holding fix at all times

9. A pilot flying a parallel entry into a hold performs which sequence of maneuvers?

A. Parallel the outbound course on the holding side, then turn back to the fix

B. Turn directly to the outbound heading and follow the standard pattern at once

C. Cross the fix, turn 30 degrees toward the protected side, then intercept inbound

D. Hold the inbound heading across the fix and begin timing the inbound leg directly

10. A pilot must understand that a wind from the holding side during the inbound leg will do what to the pattern?

A. It will have no measurable effect on the shape of the holding pattern flown

B. It will tend to blow the aircraft across the fix, requiring drift correction inbound

C. It will lengthen the inbound leg time well beyond the standard one minute

D. It will require the pilot to reverse the direction of the turns in the pattern

11. A pilot is holding with a "leg length" specified as 5 DME miles. What equipment is required to fly this hold?

A. A dual VOR receiver to cross-reference the fix from two separate radials

B. An automatic direction finder to time the inbound and outbound legs precisely

C. A radio altimeter to confirm the altitude held throughout the holding turns

D. DME or an RNAV system to measure the specified leg length in nautical miles

12. A pilot must understand that the maximum holding airspeed from 6,001 to 14,000 feet MSL for civil aircraft is what?

A. The maximum holding airspeed in that band is 175 knots indicated airspeed

B. The maximum holding airspeed in that band is 200 knots indicated airspeed

C. The maximum holding airspeed in that band is 265 knots indicated airspeed

D. The maximum holding airspeed in that band is 230 knots indicated airspeed

13. A pilot crossing a holding fix on a heading that places the aircraft in the direct entry sector should do what?

A. Turn to follow the outbound leg, then turn inbound to complete the pattern

B. Parallel the inbound course outbound on the non-holding side first briefly

C. Depart the fix at a 30-degree teardrop offset before turning back inbound

D. Maintain the inbound heading across the fix without making any turn at all

14. A pilot must understand that the "abeam point" in a holding pattern is where the aircraft is positioned how?

A. Abeam the holding fix on the outbound leg, perpendicular to the inbound course

B. Directly over the holding fix at the completion of the inbound leg of the pattern

C. At the farthest point of the outbound leg before beginning the inbound turn

D. At the point where the entry to the holding pattern is first initiated by the pilot

15. A pilot must understand that "hold-in-lieu-of-procedure-turn" (HILPT) on an approach serves what purpose?

A. It provides a holding pattern for aircraft awaiting their departure clearance release

B. It establishes the missed approach holding fix after a failed approach attempt

C. It marks the transition from the enroute structure into the terminal arrival area

D. It provides course reversal and altitude loss to align the aircraft inbound on final

16. A pilot flying a procedure turn must understand that the "remain within" distance specifies what?

A. The minimum distance the procedure turn must extend before turning inbound

B. The distance from the runway threshold at which the turn must be completed

C. The radius of the protected holding airspace around the procedure turn fix point

D. The maximum distance from the fix within which the procedure turn must be flown

17. A pilot must understand that a standard 45/180 procedure turn consists of what maneuver?

A. A 45-degree turn followed immediately by a continuous 360-degree orbit

B. A 45-degree turn outbound, straight flight, then a 180-degree turn to inbound

C. A 90-degree turn in one direction followed by a 270-degree turn to reverse

D. A teardrop departure at 30 degrees followed by a direct intercept inbound

18. A pilot must understand that the "80/260" course reversal is an alternative to the standard procedure turn that does what?

A. It turns 80 degrees one way, then 260 degrees the opposite way to reverse course

B. It turns 80 degrees outbound, then holds for two minutes before turning inbound

C. It combines an 80-degree teardrop with a 260-degree holding pattern orbit

D. It requires 80 seconds outbound and a 260-degree climbing turn to the fix

19. A pilot must understand that the protected airspace for a holding pattern is based on what factors?

A. The holding altitude, airspeed, and the timing or leg length of the pattern

B. The runway length available at the destination airport for the eventual landing

C. The type of approach to be flown after the holding pattern is finally exited

D. The number of aircraft simultaneously holding at the same fix and altitude

20. A pilot in a parallel entry crosses the fix, parallels the outbound, then turns which way to rejoin?

A. Turns in the direction of the holding pattern turns to rejoin the inbound course

B. Turns toward the holding side, more than 180 degrees, to intercept inbound to the fix

C. Continues straight outbound without turning until reaching the abeam position point

D. Turns immediately back across the fix to begin the standard pattern at once

21. A pilot flying a DME arc to intercept a holding course must understand the arc is maintained by doing what?

A. Turning about 10 degrees and re-centering the bearing pointer near the wingtip

B. Holding a constant heading directly toward the VOR station throughout the arc

C. Maintaining a constant rate of descent while tracking around the arc segment

D. Tracking the localizer outbound from the airport to remain on the curved path

22. A pilot must understand that when entering a hold, the entry should be completed within what time relative to the leg timing?

A. The entry must be completed before crossing the holding fix the first time

B. The entry timing is irrelevant since holding patterns have no time restrictions

C. The entry should be flown so the aircraft is established inbound within the leg time

D. The entry must take exactly three minutes regardless of the wind conditions present

23. A pilot is instructed to reduce to holding speed when approaching a holding fix. By what point should the aircraft be at or below the maximum holding airspeed?

A. Within five miles after crossing the holding fix on the first outbound leg

B. At any point during the first complete circuit of the holding pattern flown

C. Within three minutes of and prior to crossing the holding fix initially

D. Only after the inbound leg timing has been established on the first circuit

24. A pilot must understand that "no procedure turn" (NoPT) on an approach transition means what?

A. No procedure turn is required or authorized when arriving via that transition route

B. The procedure turn must be flown before continuing inbound on the final course

C. The approach is not authorized for that aircraft category under any conditions

D. The pilot must verify the procedure type with ATC before beginning the approach

25. A pilot flying a hold with a tailwind on the inbound leg should adjust the outbound timing how?

A. Increase the outbound leg time to compensate for the inbound tailwind effect

B. Keep the outbound leg at exactly one minute regardless of the wind present

C. Decrease the outbound leg time to compensate for the inbound tailwind effect

D. Time the outbound leg from the abeam point only and ignore the wind entirely

26. A pilot must understand that the racetrack pattern of a hold consists of which elements?

A. Two 90-degree turns connected by a single straight leg between the turns

B. Two 180-degree turns connected by two straight legs, inbound and outbound

C. A continuous circular orbit around the holding fix at a constant bank angle

D. A figure-eight pattern crossing over the holding fix on each circuit flown

27. A pilot must understand that wind drift in a hold is corrected on the outbound leg by applying what?

A. A drift correction angle, often tripled compared to the inbound correction needed

B. No correction, since the outbound leg automatically compensates for any wind

C. A reversal of the turn direction to counteract the crosswind on the outbound

D. An increased bank angle in the turns to shorten the pattern against the wind

28. A pilot crossing the holding fix in the teardrop entry sector should do what?

A. Turn to parallel the inbound course outbound on the non-holding side first

B. Maintain the inbound heading across the fix without turning in the pattern

C. Depart the fix at a 30-degree offset toward the holding side, then turn inbound

D. Turn immediately to follow the standard outbound leg of the holding pattern

29. A pilot must understand that an RNAV hold programmed into the FMS requires the pilot to enter what?

A. Only the holding fix name, with the FMS computing all parameters automatically

B. The inbound course, turn direction, and the leg length or time for the pattern

C. The maximum holding airspeed and the aircraft category for the protected area

D. The fuel reserves and the alternate airport for the lost-communications scenario

30. A pilot must understand that the holding pattern timing for the outbound leg is adjusted to achieve what?

A. The outbound leg should always be exactly one minute regardless of any wind

B. The outbound leg timing is adjusted so the inbound leg meets the required time

C. The outbound leg should match the teardrop entry offset angle precisely each time

D. The outbound leg timing is set by the controller and cannot be changed by the pilot

31. A pilot must understand that the "direct entry" is appropriate when the aircraft approaches the fix from which sectors?

A. From the parallel entry sector on the non-holding side of the inbound course

B. From the teardrop entry sector offset toward the holding side of the course

C. From the sector where a simple turn to the outbound leg aligns the pattern

D. From any direction, since the direct entry works for all approach headings

32. A pilot flying a parallel entry must remain on which side of the inbound course during the entry?

A. The non-holding side, paralleling the inbound course outbound before turning back

B. The holding side, where the standard pattern turns are normally flown each circuit

C. Directly on the inbound course centerline throughout the entire entry maneuver

D. The side determined by the strongest wind component at the holding altitude flown

33. A pilot must understand that the maximum holding airspeed at or below 6,000 feet MSL for civil aircraft is what?

A. The maximum holding airspeed at or below 6,000 feet is 230 knots indicated

B. The maximum holding airspeed at or below 6,000 feet is 200 knots indicated

C. The maximum holding airspeed at or below 6,000 feet is 175 knots indicated

D. The maximum holding airspeed at or below 6,000 feet is 265 knots indicated

34. A pilot must understand that when holding, the turns should be made at what rate?

A. The turns should be made at a 45-degree bank angle for the tightest pattern

B. The turns should be made at standard rate, 30-degree bank, or 25 degrees with flight director, whichever is less

C. The turns should be made at the maximum bank angle the aircraft can safely sustain

D. The turns should be made at a 10-degree bank angle to widen the holding pattern

35. A pilot must understand that a published holding pattern depicted with a bold line on the chart indicates what?

A. The charted holding pattern with its depicted direction, course, and leg parameters

B. The maximum altitude authorized within the holding pattern at that fix shown

C. The location of the missed approach point for the associated instrument approach

D. The boundary of the protected airspace surrounding the holding fix on the chart

36. A pilot must understand that the "secondary holding area" beyond the primary protected area provides what?

A. An additional area where a second aircraft may hold at the same altitude safely

B. A buffer where the maximum holding speed may be exceeded during the turns

C. A tapered buffer of obstacle clearance reducing outward from the primary area edge

D. A region where the pilot may extend the outbound leg without any restriction at all

37. A pilot flying an approach with a procedure turn barbed arrow must turn on which side of the course?

A. The side opposite the barb, where the protected airspace is not actually provided

B. Either side at the pilot's discretion, since the barb is only an advisory marking

C. The side indicated by the barb, where the procedure turn must be conducted

D. The side facing the runway threshold regardless of the barb direction shown

38. A pilot must understand that the entry to a hold uses the aircraft's heading at the fix compared to what reference?

A. The inbound holding course, to determine which of the three entry sectors applies

B. The magnetic north reference, to compute the absolute bearing to the holding fix

C. The runway heading at the destination airport for the eventual instrument approach

D. The wind direction at the holding altitude to select the most efficient entry type

39. A pilot must understand that the timing of the inbound leg is used to do what in a standard hold?

A. To determine the maximum holding airspeed permitted at the current altitude

B. To establish the protected airspace radius required around the holding fix point

C. To calculate the fuel remaining before the expect-further-clearance time arrives

D. To adjust the outbound leg so the inbound leg meets the standard required time

40. A pilot in a hold must understand that the EFC time primarily serves what function?

A. It establishes the exact moment the approach clearance will be issued by ATC

B. It defines the maximum holding airspeed to be maintained while in the pattern

C. It marks the time the missed approach procedure must be commenced if needed

D. It provides a time for lost-communications planning, indicating when to proceed

41. A pilot must understand that the standard rate turn in a holding pattern produces a turn radius that depends on what?

A. The holding altitude above mean sea level at which the pattern is being flown

B. The true airspeed of the aircraft, with higher speeds producing a larger radius

C. The direction of the turns, with right turns producing a tighter radius than left

D. The number of circuits flown, with the radius decreasing on each successive turn

42. A pilot flying a hold at a VOR intersection must identify the fix using what?

A. A single VOR radial and a timed interval from the station passage point

B. The DME distance alone without reference to any radial from the station

C. An automatic direction finder bearing to a nearby non-directional beacon

D. Two VOR radials, or a radial and a DME distance, defining the intersection

43. A pilot must understand that when cleared to a holding fix and "hold as published," the pilot uses what?

A. The charted holding pattern depicted on the approach or enroute chart for that fix

B. Any standard right-turn pattern chosen by the pilot at the holding fix location

C. A pattern with parameters that the controller must state verbally each time

D. A default left-turn pattern stored in the RNAV navigation database for the fix

44. A pilot must understand that the "fix end" and "outbound end" of a holding pattern refer to what?

A. The two VOR stations used to define the holding fix at the intersection point

B. The maximum and minimum altitudes authorized within the holding pattern flown

C. The entry and exit points where aircraft join and leave the holding pattern

D. The turn at the holding fix and the turn at the far end of the outbound leg

45. A pilot must understand that holding pattern airspace protection assumes the pilot will do what regarding speed?

A. Exceed the maximum holding speed by up to 10 percent during the turns only

B. Fly at the slowest possible airspeed to minimize the protected area required

C. Vary the speed freely throughout the pattern as traffic conditions dictate

D. Not exceed the maximum holding airspeed published for the altitude flown

46. A pilot flying a teardrop course reversal on an approach departs the fix and does what?

A. Holds in a standard pattern for two minutes before turning inbound to the final

B. Flies outbound on a teardrop track, then turns to intercept the inbound final course

C. Performs a 45-degree turn followed by a 180-degree turn to reverse the course

D. Turns 80 degrees one way and 260 degrees the other to reverse the course flown

47. A pilot must understand that the inbound leg of a hold should be aligned with what?

A. The outbound leg heading, flown in the reverse direction on the return

B. The holding course toward the fix as published or assigned in the clearance

C. The runway centerline at the destination airport for the eventual approach

D. The magnetic north reference regardless of the published holding course given

48. A pilot must understand that ATC expects the aircraft to be established in the hold by which time?

A. Within five minutes of receiving the initial holding clearance from the controller

B. Before reaching the maximum holding altitude published for the fix on the chart

C. After completing exactly two full circuits of the published holding pattern shown

D. By the holding fix crossing, beginning the appropriate entry without delay

49. A pilot must understand that the holding pattern's protected airspace is larger at higher altitudes because of what?

A. The increased number of aircraft typically holding at the higher flight levels

B. The reduced navigation signal strength received at the higher holding altitudes

C. The higher true airspeed at altitude producing a larger turn radius and pattern

D. The colder temperatures at altitude affecting the aircraft's turning performance

50. A pilot crossing the fix to begin a direct entry should turn in which direction for a standard pattern?

A. Turn left to follow the outbound leg of the standard right-turn pattern shown

B. Maintain the present heading across the fix without turning into the pattern

C. Turn right to follow the outbound leg of the standard right-turn holding pattern

D. Turn at a 30-degree offset toward the non-holding side before turning inbound

51. A pilot must understand that the "minimum holding altitude" (MHA) at a fix ensures what?

A. Two-way radio communication coverage throughout the entire holding pattern area

B. Radar contact with the controlling facility for the full duration of the hold

C. Freedom from icing conditions while the aircraft remains in the holding pattern

D. Obstacle clearance and acceptable navigation signal reception within the pattern

52. A pilot must understand that when the holding instructions specify "left turns," this means what?

A. The pilot flies a standard right-turn pattern but enters from the left side

B. The pilot alternates between left and right turns on successive circuits flown

C. The pilot flies a nonstandard pattern using left turns at the holding fix

D. The pilot chooses the turn direction based on the wind at the holding altitude

53. A pilot must understand that the holding pattern entry procedures are recommended, not mandatory, meaning what?

A. The pilot may skip the entry entirely and proceed directly to the inbound leg timing

B. Any entry that keeps the aircraft within the protected airspace is acceptable to use

C. The controller must approve the chosen entry method before the aircraft enters

D. The entry must always be the direct entry regardless of the arrival heading flown

54. A pilot flying a hold must understand that exceeding the maximum holding airspeed risks what?

A. An inability to maintain the assigned holding altitude during the turns made

B. A loss of the navigation signal required to identify the holding fix accurately

C. An automatic disconnection of the autopilot during the holding pattern turns

D. Flying outside the protected airspace, risking obstacles or other aircraft conflict

55. A pilot must understand that the "abeam" timing point on the outbound leg is used when what condition exists?

A. When the aircraft is equipped with DME to measure the leg length in miles

B. When the outbound abeam position over the fix is identifiable for starting the timing

C. When the controller specifically requests timing from the abeam position only

D. When the inbound leg exceeds two minutes due to a strong tailwind component

56. A pilot must understand that the direction of holding pattern turns, unless otherwise specified, is what?

A. Right turns, which constitute the standard holding pattern direction by default

B. Left turns, which constitute the standard holding pattern direction by default

C. Determined by the pilot based on the most favorable wind at the altitude flown

D. Alternating each circuit to distribute the wear on the aircraft's control surfaces

57. A pilot in a hold with a known crosswind must apply wind correction on the outbound leg to roughly what degree relative to the inbound correction?

A. About triple the inbound drift correction, to offset drift during both turns

B. About half the inbound drift correction, since the outbound leg is shorter

C. Exactly the same correction as the inbound leg, with no adjustment at all

D. No correction outbound, because the turns automatically cancel the drift

58. A pilot must understand that holding airspace is protected on the holding side and includes what on the non-holding side?

A. No protection at all is provided on the non-holding side of the inbound course

B. A buffer area extending a limited distance on the non-holding side of the course

C. An equal area of protection identical to that provided on the holding side fully

D. A secondary holding pattern reserved for opposite-direction traffic at the fix

59. A pilot must understand that the "tear drop" and "parallel" entries are alternatives to the direct entry used when what condition applies?

A. When the controller specifically assigns one of these entries by name in the clearance

B. When the aircraft is equipped with RNAV and the FMS computes the entry automatically

C. When the wind at the holding altitude exceeds the maximum holding airspeed limit

D. When the arrival heading places the aircraft in the teardrop or parallel entry sectors

60. A pilot must understand that the holding pattern's leg length, when defined by time rather than distance, uses what default inbound timing at or below 14,000 feet?

A. A default inbound leg time of two minutes at or below 14,000 feet MSL

B. A default inbound leg time of thirty seconds at or below 14,000 feet MSL

C. A default inbound leg time of ninety seconds at or below 14,000 feet MSL

D. A default inbound leg time of one minute at or below 14,000 feet MSL

Answer Key

1. C. Teardrop entry — Arriving heading 270° to a 360° inbound course with right turns places the aircraft in the teardrop sector; depart at a 30° offset to the outbound.

2. C. Right turns — The standard holding pattern uses right turns.

3. D. ~110 degrees — The parallel entry sector covers approximately 110° of the area around the fix.

4. C. Wings level or abeam — Inbound timing begins when wings level inbound, or abeam the fix, whichever occurs later.

5. B. 1.5 minutes — Above 14,000 ft MSL the standard inbound leg is one and one-half minutes.

6. C. Drift correction outbound — A crosswind requires applying drift correction on the outbound leg to maintain the pattern.

7. C. 30 degrees — The teardrop entry uses a track offset of about 30° from the outbound course.

8. A. Side turns are flown — The holding side is the side of the inbound course on which the turns and pattern are flown.

9. A. Parallel, then turn back — A parallel entry parallels the outbound course on the holding side, then turns back toward the fix to intercept inbound.

10. B. Blows across fix, correct — A wind from the holding side tends to blow the aircraft across the fix, requiring drift correction inbound.

11. D. DME or RNAV — A leg length in DME miles requires DME or an RNAV system to measure it.

12. D. 230 knots — Maximum holding speed from 6,001–14,000 ft is 230 KIAS.

13. A. Turn to outbound, then inbound — In the direct entry sector, turn to follow the outbound leg, then turn inbound to complete the pattern.

14. A. Abeam outbound — The abeam point is abeam the holding fix on the outbound leg, perpendicular to the inbound course.

15. D. Course reversal/altitude loss — A HILPT provides course reversal and altitude loss to align the aircraft inbound on final.

16. D. Max distance from fix — The "remain within" distance specifies the maximum distance from the fix within which the procedure turn must be flown.

17. B. 45 out, 180 inbound — A standard 45/180 procedure turn is a 45° turn outbound, straight flight, then a 180° turn to inbound.

18. A. 80 then 260 opposite — The 80/260 reversal turns 80° one way, then 260° the opposite way to reverse course.

19. A. Altitude, speed, timing — Holding protected airspace is based on holding altitude, airspeed, and the timing or leg length.

20. B. Toward holding side >180° — In a parallel entry, after paralleling outbound the aircraft turns toward the holding side more than 180° to intercept inbound to the fix.

21. A. Turn 10°, re-center — A DME arc is maintained by turning about 10° and re-centering the bearing pointer near the wingtip.

22. C. Established within leg time — The entry should be flown so the aircraft is established inbound within the leg time.

23. C. Within 3 minutes prior to the fix — ATC expects the aircraft to be at or below the maximum holding airspeed within three minutes before crossing the holding fix initially. This allows the aircraft to slow before entry so the pattern stays within protected airspace. This now tests the speed-reduction timing rule rather than re-applying the EFC lost-communications logic from Q40.

24. A. No procedure turn — "NoPT" means no procedure turn is required or authorized via that transition.

25. C. Decrease outbound time — A tailwind on the inbound leg lengthens it, so decrease outbound timing to keep the inbound leg standard.

26. B. Two 180° turns, two legs — A racetrack hold is two 180° turns connected by inbound and outbound straight legs.

27. A. Tripled drift correction — Outbound drift correction is often tripled compared to the inbound correction to compensate for the turns.

28. C. 30° offset toward holding side — In the teardrop sector, depart the fix at a 30° offset toward the holding side, then turn inbound.

29. B. Course, direction, leg — An RNAV hold requires entering the inbound course, turn direction, and leg length or time.

30. B. Adjust so inbound meets time — Outbound timing is adjusted so the inbound leg meets the required time.

31. C. Simple turn aligns — Direct entry applies from the sector where a simple turn to the outbound leg aligns the pattern.

32. A. Non-holding side — A parallel entry remains on the non-holding side, paralleling the inbound course outbound before turning back.

33. B. 200 knots — Maximum holding speed at or below 6,000 ft is 200 KIAS.

34. B. Standard rate/30°/25° FD — Holding turns are made at standard rate, 30° bank, or 25° with a flight director, whichever is less.

35. A. Charted pattern parameters — A bold-line published holding pattern shows the charted direction, course, and leg parameters.

36. C. Tapered obstacle buffer — The secondary area is a tapered buffer of obstacle clearance reducing outward from the primary area edge.

37. C. Side of the barb — The procedure turn is conducted on the side indicated by the barb.

38. A. Inbound course/sectors — Entry uses the aircraft's heading at the fix compared to the inbound holding course to determine the entry sector.

39. D. Adjust outbound — Inbound leg timing is used to adjust the outbound leg so the inbound leg meets the standard time.

40. D. Lost-comm planning — The EFC time provides a time for lost-communications planning (when to proceed).

41. B. TAS, larger radius — Turn radius depends on true airspeed; higher speeds produce a larger radius.

42. D. Two radials or radial/DME — A VOR intersection fix is identified by two VOR radials, or a radial and a DME distance.

43. A. Charted pattern — "Hold as published" uses the charted holding pattern depicted for that fix.

44. D. Fix and far-end turns — The fix end and outbound end refer to the turn at the holding fix and the turn at the far end of the outbound leg.

45. D. Not exceed max speed — Holding airspace protection assumes the pilot will not exceed the published maximum holding airspeed.

46. B. Teardrop track, intercept — A teardrop course reversal flies outbound on a teardrop track, then turns to intercept the inbound final course.

47. B. Holding course to fix — The inbound leg is aligned with the holding course toward the fix as published or assigned.

48. D. By fix crossing — ATC expects the appropriate entry to begin by the holding fix crossing, without delay.

49. C. Higher TAS, larger pattern — Protected airspace is larger at altitude because higher true airspeed produces a larger turn radius and pattern.

50. C. Turn right outbound — For a standard right-turn pattern, a direct entry turns right to follow the outbound leg.

51. D. Obstacle clearance/reception — MHA ensures obstacle clearance and acceptable navigation signal reception within the pattern.

52. C. Nonstandard left turns — "Left turns" specifies a nonstandard pattern using left turns at the holding fix.

53. B. Any entry within airspace — Entry procedures are recommended; any entry that keeps the aircraft within the protected airspace is acceptable.

54. D. Outside protected airspace — Exceeding the maximum holding speed risks flying outside the protected airspace into obstacles or traffic.

55. B. Abeam identifiable — Abeam timing is used when the outbound abeam position over the fix is identifiable for starting the timing.

56. A. Right turns default — Unless otherwise specified, holding pattern turns are right turns (standard).

57. A. Triple the inbound correction — On the outbound leg of a hold, the standard technique is to apply roughly three times the inbound drift correction angle. This compensates for drift accumulated not only along the outbound leg but also through both 180° turns, so the aircraft rolls out properly aligned on the inbound course. This now tests outbound wind-correction magnitude rather than repeating the parallel-entry turn direction from Q20.

58. B. Buffer on non-holding side — Holding airspace is protected on the holding side and includes a limited buffer on the non-holding side.

59. D. Sector-based — Teardrop and parallel entries are used when the arrival heading places the aircraft in those entry sectors.

60. D. One minute — At or below 14,000 ft, the default inbound leg time is one minute.