

2023 JUDGES REVALIDATION & CURRENCY EXAM

v5 – May 11, 2023

Welcome to the 2023 Judges Revalidation & Currency Exam.

All IAC Grading Judges must pass this test to qualify for judging in the current calendar year.

The intent of the exam is educational, not to stump you. Each question includes a hint or hints, so we recommend taking the exam with a copy of this year's **Official Contest Rules** at hand. For those who prefer to work on the exam offline, this PDF version of the exam is also provided, although you're still required to enter your answers here on the web site.

NOTES:

- Please read each question carefully. Just like grading figures, the small details matter.
- While most questions ask for the correct or most appropriate answer, a few will ask which answer is **INCORRECT**.
- Unless otherwise stated, assume that all questions pertain to you as a Grading Judge.
- Unless Gliders are mentioned explicitly, assume that all questions pertain to Power aircraft.

→ If you do not achieve a passing score, please contact the Chair of the Judges Program, DJ Molny, at judgeschair@iac.org to go over any problem areas before you take the test again.

Thank you for your effort and enthusiasm. Aerobatic competition would not be possible without you!

QUESTION 1

The official criteria for becoming an IAC Judge and maintaining currency can be found:

(Hint: Follow the links in the answers below)

- A. The 2023 edition of the IAC Contest Rules (<https://www.iac.org/download-contest-rules>)
- B. Pre-2020 editions of the IAC Contest Rules (<https://www.iac.org/old-rule-books>)
- C. Section 214 of the IAC Policy and Procedure Manual (<https://www.iac.org/policy-and-procedure-manual>)
- D. Any of the above

QUESTION 2

While grading competitors, you must:

(Hint: Rule 26.1.1)

- A. Ignore purely stylistic differences such as slow graceful flying vs fast-paced
- B. Do your best to avoid any preconceptions about the competitor or their aircraft
- C. Avoid the temptation to adjust your scores based on the difficulty of the figures
- D. All of the above

QUESTION 3

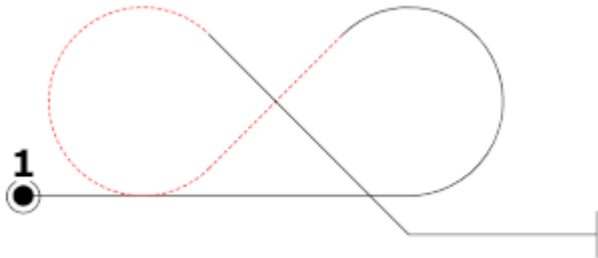
You observe a Power Primary competitor begin a loop from an altitude that is obviously above 3500 feet AGL and close to the judges, making it very difficult to evaluate the figure. You should:

(Hints: Rules 13.5.1, 27.15.1)

- A. Ignore the extra altitude because it increases the safety factor
- B. Instruct your Recorder to write "HIGH" in the Remarks column of the Form A
- C. Deduct two points because it is not possible to properly grade the figure
- D. Make a mental note to deduct from the Presentation score
- E. Answers B, C, and D

QUESTION 4

While waiting for an Unlimited competitor to begin their Performance, you see them dive into the box and -- without Signaling -- fly a 7.8.1.1 "Inside-Outside 8" as depicted below. The first figure on their sequence is a hammerhead. You should:



(Hint: Rule 14.3.3)

- A. Mark Figure 1 as HZ with the notation: "wrong figure".
- B. Assume this a safety check and do nothing.
- C. Tell the Chief Judge that the pilot started without signaling.
- D. Mark Figure 1 as "A" for Average.

QUESTION 5

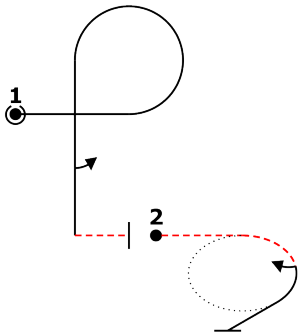
While grading a flight, you see the competitor fly all of the figures on the program, immediately repeat the final three figures, and then Signal with a wing-wag. You should:

(Hint: Rules 14.5.3 & 26.3.1(b))

- A. Do nothing -- the Performance ended when the competitor flew the last figure on Form B/C
- B. Change your score for the last non-HZ figure to HZ with the notation "*Added Figures*"
- C. Change your scores for the final three figures to HZ with the notation "*Added Figures*"
- D. Refer the matter to the Contest Jury for adjudication

QUESTION 6

A competitor is supposed to fly the following figures:



Instead, they perform a $\frac{3}{4}$ roll on the downline of Figure 1, finishing Figure 1 inverted and 90° off-heading. You see the competitor roll upright and then wing-wag. You should immediately:

(Hint: Rule 15.1.3)

- A. Award a HZ to Figure 1 with the notation "*wrong figure*"
- B. Award a HZ to Figures 1 and 2 with the notation "*wrong figure*" for both
- C. Award a HZ to Figure 1 with the notation "*wrong figure*" and award a HZ to Figure 2 with the notation "*added figure*"
- D. Award a HZ to Figure 1 and "A" for Average for Figure 2

QUESTION 7

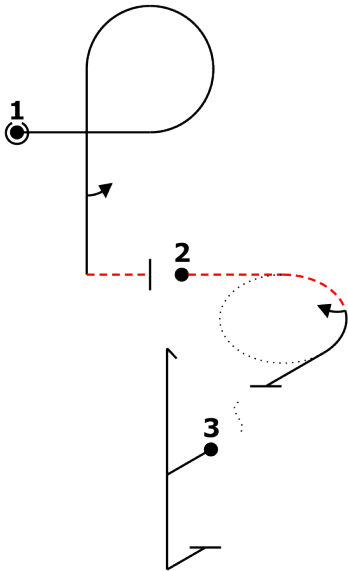
A competitor is flying a sequence with 15 figures. After successfully completing Figures 1 through 9, the competitor takes an Explicit Interruption. After signaling a restart, they repeat Figures 8 and 9, and then finish the sequence as drawn. You should:

(Hint: Rules 15.1.5, 26.3.1(b), 26.5.2)

- A. Ignore the repeated Figures 8 and 9, and resume scoring on Figure 10
- B. Award a HZ to Figure 8 with the notation "*added figure*", ignore the repeated Figure 9, and resume scoring on Figure 10
- C. Award a HZ to Figure 9 with the notation "*added figure*" and resume scoring on Figure 10
- D. Award a HZ to Figure 10 with the notation "*added figure*"

QUESTION 8

You are grading a competitor who is supposed to fly the following figures:



However, they perform a $\frac{3}{4}$ roll on the downline of Figure 1, finishing upright and 90° off-heading. You see the competitor turn 90° , roll inverted, and begin Figure 2 in the proper direction. You should:

(Hint: Rule 15.2.1)

- A. Award a HZ to Figure 1 with the notation "*wrong figure*"
- B. Award a HZ to Figures 1 and 2 with the notation "*wrong figure*" for both
- C. Award a HZ to Figures 1, 2, and 3 with the notation "*wrong figure*" for all three
- D. Award a HZ to Figures 1, 2, 3, and 4 with the notation "*wrong figure*" for all four

QUESTION 9

Just before a competitor begins a Free Program Performance, you notice that one of their sequence drawings depicts a hammerhead with $\frac{1}{2}$ roll on the downline while the other drawing depicts the same figure as having $1\frac{1}{2}$ rolls on the downline. How should you evaluate that figure?

(Hint: Rule 21.5.2)

- A. Use the Aresti catalog numbers to determine which roll to expect
- B. Use the drawing on the form that corresponds to the official wind (B, C, L, or R)
- C. Award a HZ
- D. Award an 'A' for Average

QUESTION 10

A competitor flies a figure with several major errors in heading and flight path, and you award a score of 0.0. Which of the following would be an appropriate entry in the Remarks column?

(Hint: 26.2.2)

- A. By definition, a score of 0.0 means at least ten points of deductions, so there's no need to write anything in the Remarks column
- B. "*Wrong figure*"
- C. "*Ugly figure*"
- D. "*Many angular errors*"

QUESTION 11

A spin is over-rotated by 90° . The correct mark is:

(Hint: Rule 26.3.1(c))

- A. 0.0
- B. HZ

QUESTION 12

A competitor flies a 45° upline that is 15° too steep with a snap that is over-rotated by 25° . The figure finishes 20° off heading. The correct mark is:

(Hint: Rule 26.2.1(a))

- A. 0.0
- B. HZ

QUESTION 13

The correct score for a spin that does not autorotate is:

(Hint: Rules 26.3.1(d), 28.24.4)

- A. 0.0
- B. HZ

QUESTION 14

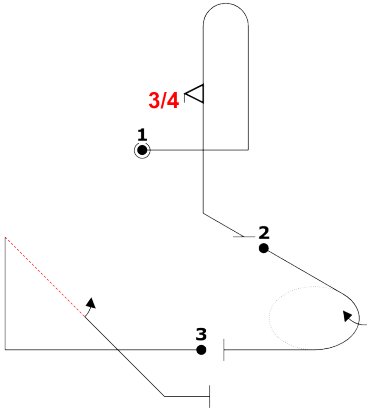
A tailslide in a **Power** aircraft does not slide backwards by at least half of the fuselage length. The correct mark is:

(Hint: 28.9.3)

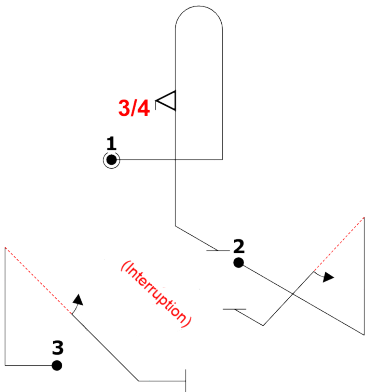
- A. 0.0
- B. HZ

QUESTION 15

The competitor was supposed to fly these figures:



But flew these figures instead:



You should:

(Hints: 26.3.1; 26.5)

- A. Award a HZ for replacing the Figure 2 rolling turn with the Y-axis Shark's Tooth, and score Figure 3 as usual
- B. Award a HZ on Figure 2 for skipping the rolling turn, award a HZ on Figure 3 for flying the Shark's Tooth on the wrong axis, ignore the second execution of the Sharks' Tooth, and resume grading on Figure 4 (not shown)
- C. Award a HZ on Figure 2 for skipping the rolling turn, award a HZ on Figure 3 for flying the Shark's Tooth on the wrong axis, award a HZ on Figure 4 (not shown) for adding the second Shark's Tooth, and resume grading on Figure 5
- D. Ask the Chief Judge to call a conference to review what happened

QUESTION 16

Flying the figure shown below, the competitor over-rotates the snap roll by 15° , pauses momentarily, then performs the aileron roll and finishes the figure wings-level. As a result, the aileron roll only rotates 345° . What is the appropriate deduction?

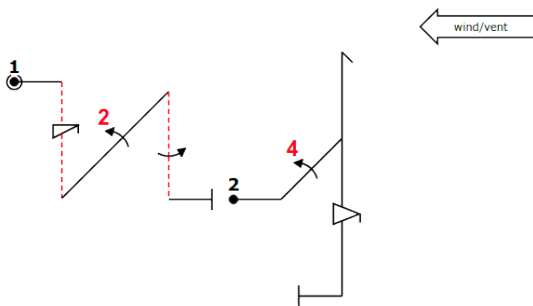


(Hint: 26.6.2, 27.8.2)

- A. Three points for over-rotating the snap
- B. Four points: three points for over-rotating the snap and one point for the pause
- C. Six points: three for over-rotating the snap and three for under-rotating the aileron roll
- D. None of the above

QUESTION 17

A competitor is flying the following figures:



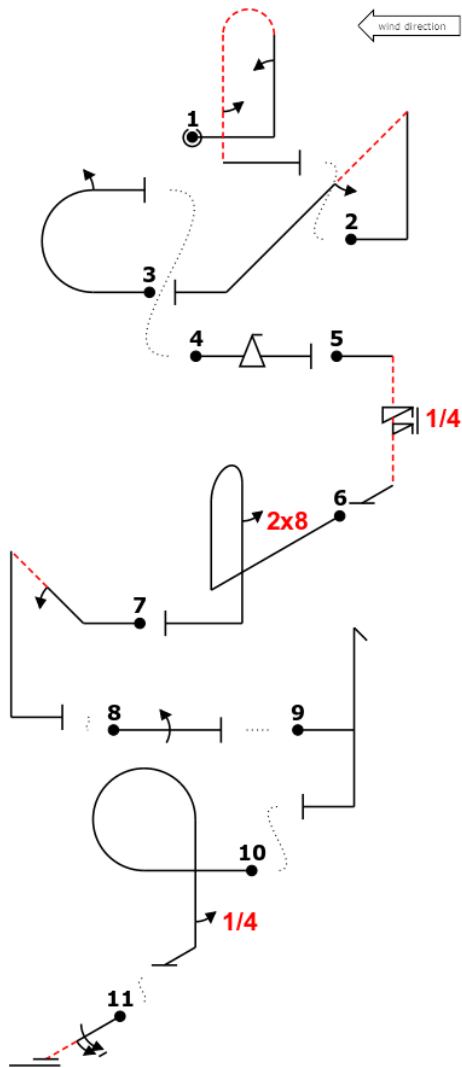
As Figure 1 progresses, you notice that the aircraft is nearing the upwind edge of the box. The competitor pulls directly from the downline of Figure 1 to the first line of Figure 2 without drawing a horizontal line. You are forced to look far to the right but still have a good view of Figure 2. You should:

(Hint: Rules 26.7.1, 27.15.1, 29.3.1(c))

- A. Deduct one point from both Figure 1 and Figure 2 for "*no line between*"
- B. Make a mental note to deduct from the Presentation score
- C. Deduct two points from Figure 2 because it is so far out of position
- D. Answers A and B

QUESTION 18

The competitor flies the following sequence as drawn until figure 6, which finishes going upwind. The competitor proceeds to fly the rest of the sequence with no Interruptions.



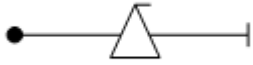
You **MUST**:

(Hint: Rules 26.8.1, 26.8.3)

- A. Hard Zero (HZ) figure 6
- B. Hard Zero (HZ) figures 6, 7, 8, 9, and 10
- C. Hard Zero (HZ) figures 6 through 11
- D. Grade all the figures because turns from the Y axis are non-directional

QUESTION 19

A competitor flies the figure shown below:



You observe the nose pitching towards the aircraft canopy as the aircraft begins to autorotate. As the aircraft reaches the inverted flight attitude, you observe that the aircraft nose has returned to the original flight path and the tail is no longer rotating off-axis in a corkscrew motion. The aircraft continues this on-axis rotation until it returns to wings level flight. The appropriate score for this figure is:

(Hint: Rules 26.3.1(c), 26.9.1, 28.22.2, 28.22.7)

- A. 10.0
- B. 0.0
- C. 5.0
- D. HZ

QUESTION 20

Flight path is:

(Hint: Rule 27.1.1)

- A. The attitude of the aircraft relative to the horizon
- B. The trajectory of the airplane's center of gravity
- C. Compared with the true horizon for horizontal flight
- D. Answers B and C

QUESTION 21

The aircraft Zero Lift Axis is:

(Hint: Rule 27.2.1)

- A. An imaginary line from the aircraft spinner to the elevator
- B. An imaginary line from the aircraft spinner to the tailwheel
- C. Dependent on whether the aircraft is upright or inverted
- D. A function of the wing's Angle of Incidence relative to the fuselage

QUESTION 22

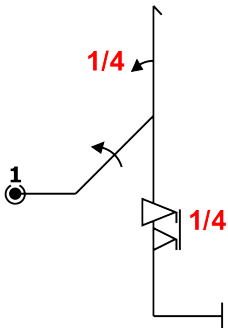
For powered airplanes, all 45° lines are judged by:

(Hint: Rule 27.4)

- A. The aircraft's flight path relative to the horizon
- B. The airplane's flight path relative to the vertical attitude
- C. The airplane's Zero-Lift Axis relative to vertical and should be corrected for the effects of wind
- D. The airplane's Zero-Lift Axis relative to vertical and the effects of wind should be ignored

QUESTION 23

A competitor flies the following figure:



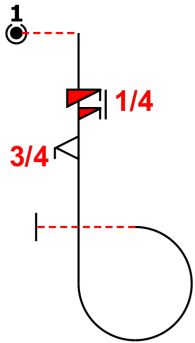
You observe a very slight under-rotation on the first roll, wings yawed 5° from level after the second roll, and a 10° over-rotation on the third roll. The appropriate deduction for these faults is:

(Hint: Rule 27.6.1)

- A. 4 points
- B. 3.5 points
- C. 3 points
- D. 2.5 points

QUESTION 24

A competitor is expected to fly the following figure:



What **MUST** you look for when determining if the spin and snap roll are flown as drawn?

(Hint: Rule 27.8.4)

- A. The yaw direction of the spin is the same as the yaw direction of the snap roll
- B. The yaw direction of the spin is opposite to the yaw direction of the snap roll
- C. The roll direction of the spin is the same as the roll direction of the snap roll
- D. The roll direction of the spin is opposite to the roll direction of the snap roll

QUESTION 25

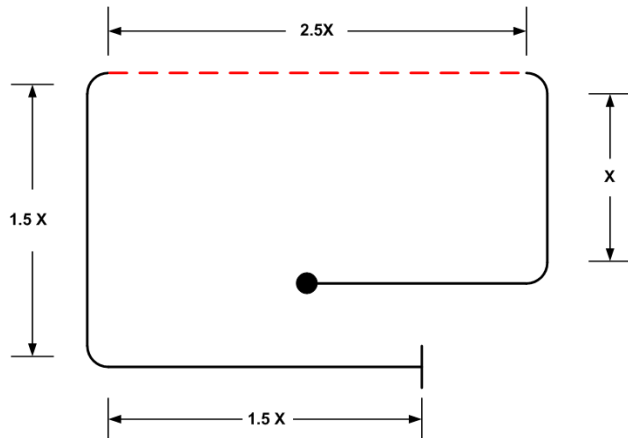
While flying a hammerhead, you see the aircraft's wings are 5° off-axis. You also see the aircraft slide backwards by one-half fuselage length, then pivot and finish with a perfect downline and the wings on-axis. The appropriate downgrade for the off-axis error is:

(Hint: Rules 27.6.1, 28.8.3)

- A. 1 point for the wings off-axis on the upline
2 points: 1 point for the wings off-axis on the upline plus 1 point because the wings were still off-axis while the aircraft slid backwards
- B. 3 points: 1 point for the wings off-axis on the upline, 1 point because the wings were still off-axis while the aircraft slid backwards, and 1 point for sliding backwards before the pivot
- C. HZ for "wrong figure" due to the backwards motion before the pivot
- D.

QUESTION 26

A competitor flies a square loop that looks like this:



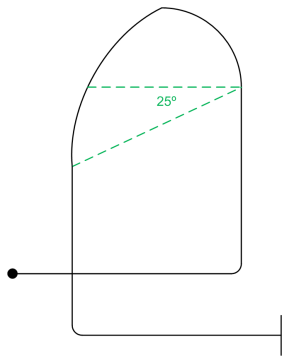
How many points should you deduct for the line length variations?

(Hint: Rules 27.9.4, 27.9.5, 28.12.2)

- A. 5.5 points
- B. 5.0 points
- C. 4.5 points
- D. 4.0 points

QUESTION 27

A competitor flies a Humpty Bump with a top radius that has a perfect first quarter but the second quarter is "pinched" and "capped low":



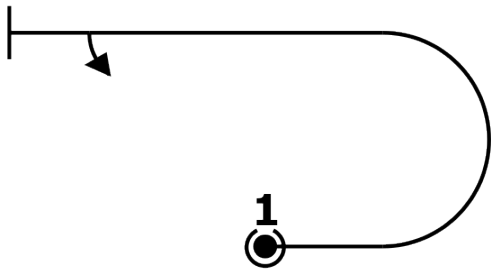
You **MUST** deduct:

(Hint: Rules 27.10.2, 27.10.4)

- A. 1 point
- B. 2.5 points
- C. 5 points
- D. An amount that is consistent with the way you score radii

QUESTION 28

A competitor flies an Immelman (half-loop up + half-roll) like this:



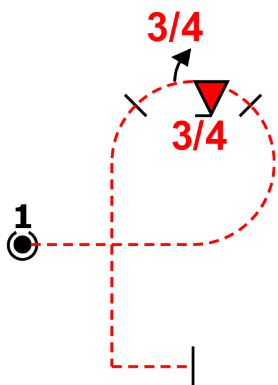
How many points should you deduct for the roll placement?

(Hint: Rule 27.11.2)

- A. 0 points
- B. One point
- C. At least one point
- D. Any amount, as long as you're consistent

QUESTION 29

A competitor flies the following figure:



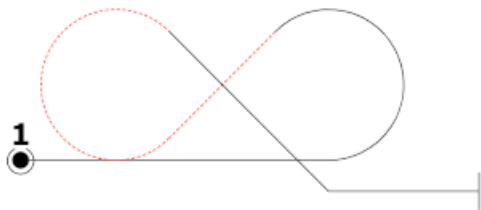
You see roll combination begin 15° before the apex of the looping segment and finish 25° past the apex, and the pause between the two roll elements occurs exactly at the apex. You should award a downgrade of:

(Hint: Rule 27.12.3)

- A. Zero points
- B. 1 point
- C. 1.5 points
- D. 2.0 points

QUESTION 30

A competitor flies an "inside-outside eight" (Aresti 7.8.1.1):



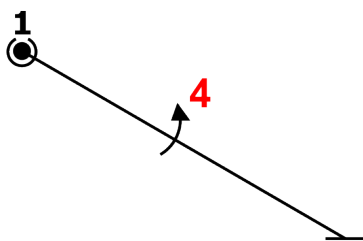
You notice that the second radius is half the size of the first. Assuming no other faults, you **MUST** deduct:

(Hint: Rules 27.13.2, 27.13.4)

- A. Zero points
- B. At least 0.5 points, and be consistent across competitors
- C. 2 points
- D. 5 points

QUESTION 31

A competitor flies the following figure:



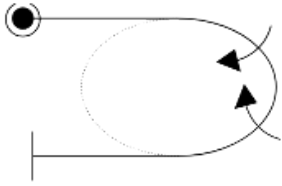
You notice that the aircraft's heading is 5° upwind relative to the Y axis, and it is drifting downwind. You should:

(Hint: Rules 27.5.2, 27.14.1)

- A. Not deduct for either the heading or the downwind drift
- B. Deduct at least 0.5 points for the downwind drift
- C. Deduct 1 point for the heading deviation
- D. Deduct 1 point for the heading deviation and at least 0.5 points for the downwind drift

QUESTION 32

A competitor is flying a 180° rolling turn with two rolls to the inside:



Although the rate of roll and rate of turn are constant, you notice that the aircraft's heading is mis-aligned with the Y-axis by 10° at the end of the first roll. This is grounds for an immediate downgrade of 2 points.

(Hint: Rule 28.6.4)

- A. True
- B. False

QUESTION 33

During a rolling turn, you see the roll rate slow down, speed up, and then stop momentarily before resuming. Assuming no other faults, you **MUST** deduct:

(Hint: Rules 28.6.5, 28.6.6)

- A. Zero points
- B. Between 1 and 2 points
- C. Between 2 and 3 points
- D. 3 points

QUESTION 34

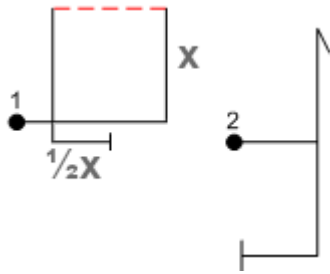
Which one of the following statements is **INCORRECT**?

(Hint: Rules 26.8.2, 28.9.2, 28.9.4, 34.19.5.1)

- A. A tailslide drawn with a dashed arc indicates that the aircraft should be inverted halfway through the pivot about the pitch axis
- B. Any tailslide on the X axis must be flown as drawn with respect to the official wind
- C. After a tailslide pivot, the aircraft may swing past vertical without penalty
- D. A glider flying a tailslide is only required to slide by a visible amount

QUESTION 35

A competitor flies these figures:



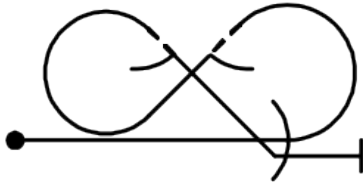
You see that the square loop's final horizontal line is half as long as the first vertical line and then the hammerhead begins. The appropriate deduction for that fault is:

(Hint: Rules 27.9.4 and 28.12.2)

- A. Grade the square loop as a hard zero (HZ) because it was not completed before the hammerhead was started
- B. Grade the square loop a hard zero (HZ) because it was not finished before starting the hammerhead and downgrade the hammerhead by one point for no line between figures
- C. Deduct two points from the square loop for the 1:2 ratio error in the last horizontal line and give the "benefit of the doubt" for completing the square loop, but deduct one (1) additional point from both the square loop and the hammerhead for "no line between"
- D. Deduct two points from the square loop for the 1:2 ratio error in length of the last horizontal line

QUESTION 36

A competitor is about to fly a Cuban-8 (Aresti Figure 7.8.4.1):



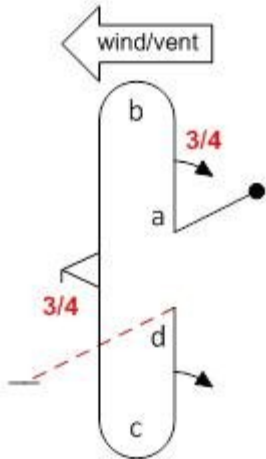
Which one of the following statements is **INCORRECT**?

(Hint: Rules 28.16.2, 28.16.3, 28.16.4, 34.19.6.1)

- A. The two looping segments must be the same size
- B. The horizontal entry and exit lines must match the top and/or bottom of the looping segments if there is no more than one roll element of no more than 360° on the first or last 45° line
- C. The horizontal entry and exit lines need not match the top and/or bottom of the looping segments if there is more than one roll element or a single roll of more than 360° on the first or last 45° line
- D. The centers of the looping segments must be at the same altitude for both Power and Glider competitors

QUESTION 37

In this Double Humpty Bump:



(Hint: Rules 28.18.1, 26.8.2, 26.8.3)

- A. Radii a, b, c, and d may all be different; the first half loop flown upwind or downwind and the second half loop flown in either direction on the Y axis with the exit direction either in the same or opposite direction as the entry
- B. Radii a, b, c, and d may all be different; the first half loop must be flown downwind, and the second half loop must be flown in a direction on the Y axis which results in the exit direction being the same as the entry direction
- C. Radius 'd' must equal 'a'; radii 'b' and 'c' may each be different; the first half loop must flown downwind, and the second half loop flown in either direction on the Y axis at the pilot's option
- D. Radius 'c' must equal 'b', and but radius 'a' and 'b' may each be different. The half loops may be flown in either direction.

QUESTION 38

As a competitor executes a four-point roll, you see the aircraft slightly over-rotated at each of the four points and the hesitation between the second and third quarter-rolls is longer than the first. The **MINIMUM** downgrade for those errors is:

(Hint: Rules 28.21.2, 28.21.4)

- A. 1 point
- B. 2 points
- C. 3 points
- D. 4 points

QUESTION 39

Observing a snap roll, you never see any pitch change, but the nose does yaw followed by autorotation as indicated by the conical motion of the longitudinal axis. Assuming no other faults, the proper score is:

(Hint: Rules 28.22.2, 28.22.4)

- A. 0.0
- B. HZ
- C. 8.0
- D. 10.0

QUESTION 40

Which of the following statements about spins is **INCORRECT**?

(Hint: Rules 28.24.2, 28.24.5, 28.24.7, 28.24.8)

- A. At the start of the spin, the aircraft must pitch, yaw, and roll simultaneously
- B. Once the spin is established, the aircraft must maintain a constant pitch attitude until the correct amount of rotation is reached
- C. If you perceive the aircraft spiraling throughout the entire maneuver rather than autorotating, you must award a HZ
- D. At the completion of the spin, the aircraft must pitch to vertical down and align the wings with the horizon

QUESTION 41

Which of the following statements about Presentation marks is **CORRECT**?

(Hint: Rule 29.3)

- A. Judges give a presentation grade according to the total impression of the balanced use of the aerobatic box and over all presentation of the sequence
- B. The competitor is not required to use all the available airspace vertically or on the X and Y axes
- C. It is important that Judges apply their Presentation criteria consistently to every pilot
- D. All of the above

QUESTION 42

You are about to grade a Four Minute Free program. Which of the following is **CORRECT**?

(Hint: Rules 35.11.1, 35.12, 35.13)

- A. There are ten grading criteria
- B. There are no fixed deductions
- C. All grades must be between 0.0 and 10.0 in increments of 0.5
- D. All of the above