



## Welcome to the 2024 Grading Judge Exam

The goal of this exam is to ensure that you are familiar with Aresti notation and the IAC Rule Book.

The process for becoming a judge is documented in the IAC Policy and Procedure manual, Section 214.

We hope that the [Introduction to IAC and the Aresti Language](#) and the [Practical Aerobatic Judging](#) courses, along with home study of the IAC Official Contest Rules, have prepared you to post a high score here. The exam is open book and has no time limit. Each question comes with one or more hints that direct you to the relevant part(s) of the Rule Book, the Aresti Catalog, or the IAC Policy and Procedure Manual.

--> If you do not achieve a passing score, please contact the Chair of the Judges Program, DJ Molny, at [judgeschair@iac.org](mailto:judgeschair@iac.org) to go over any problem areas before you take the test again.

Good luck, thank you for investing time in the judging program, and we look forward to seeing you on the Judges Line!

### NOTES:

- Please read each question carefully. Just like grading figures, the small details matter.
- When looking up a rule, be sure to read it in its entirety. Sometimes a Clarification or Example will reveal key information.
- While most questions ask for the correct or most appropriate answer, a few will ask which answer is **INCORRECT**.
- Unless stated otherwise, all questions pertain to the responsibilities of a Grading Judge.
- Unless stated otherwise, all questions pertain to Power aircraft.

# Question 1

New applicants for Regional Judge:

(Hint: IAC [Policy and Procedure](#) #214, part 214.5)

## Answer

- A) Must complete the Grading Judge Exam within same calendar year as the most recent Judges School that they attended
- B) May request a Senior Grading Judge to select another Judge to jointly administer an oral/written exam prior to receiving a passing grade on the Grading Judge Exam
- C) Must have completed the IAC "Practical Aerobatic Judging" training within the current or previous contest year prior to application
- D) Must have performed the duties of Assistant to a Grading Judge for no less than 40 flights within the current or previous contest year prior to application, unless they have previously flown in IAC competition

# Question 2

An Aresti Basic Figure is defined as:

(Hint: Aresti Catalog, Part I, Paragraph 2)

## Answer

- A) Any maneuver that's suitable for the Primary and Sportsman categories
- B) Any figure in Families 1 through 8
- C) Any figure that has no added rolls
- D) Any figure that does not involve negative G's

# Question 3

Aresti Complementary Figures are:

(Hint: Aresti Catalog, Part I, Paragraph 4)

## Answer

- A) Found in Family 9
- B) Rotational elements such as aileron rolls, snaps, and spins
- C) Mandatory for certain Basic Figures
- D) All of the above

## Question 4

A half-arc symbol on a Basic Figure, such as the 45° line below, indicates that:



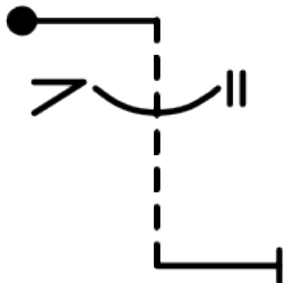
(Hint: Rule 36.5.1)

### Answer

- A) You may place any roll, or roll combination, at that location
- B) You **must** add a roll, or roll combination, at that location
- C) Any roll, or roll combination, **must** result in a 180° change of attitude
- D) B and C

## Question 5

The roll symbols on the catalog drawing below indicate that:



(Hint: Rule 36.5.1)

### Answer

- A) Rolls are optional on the vertical down line
- B) Any type of roll, or roll combination, may be placed on the vertical down line
- C) Any roll, or roll combination, must be a multiple of 90°
- D) All of the above



## Question 8

Heading is the compass direction in which the airplane is pointed and in competition is judged:

(Hint: Rules 27.4.2, 27.5.2)

### Answer

- A) Relative to the actual wind aloft
- B) Relative to the X or Y axis, as appropriate
- C) Relative to the wind arrow on the sequence diagram
- D) All of the above

## Question 9

Flight path is defined as:

(Hint: Rule 27.1.1)

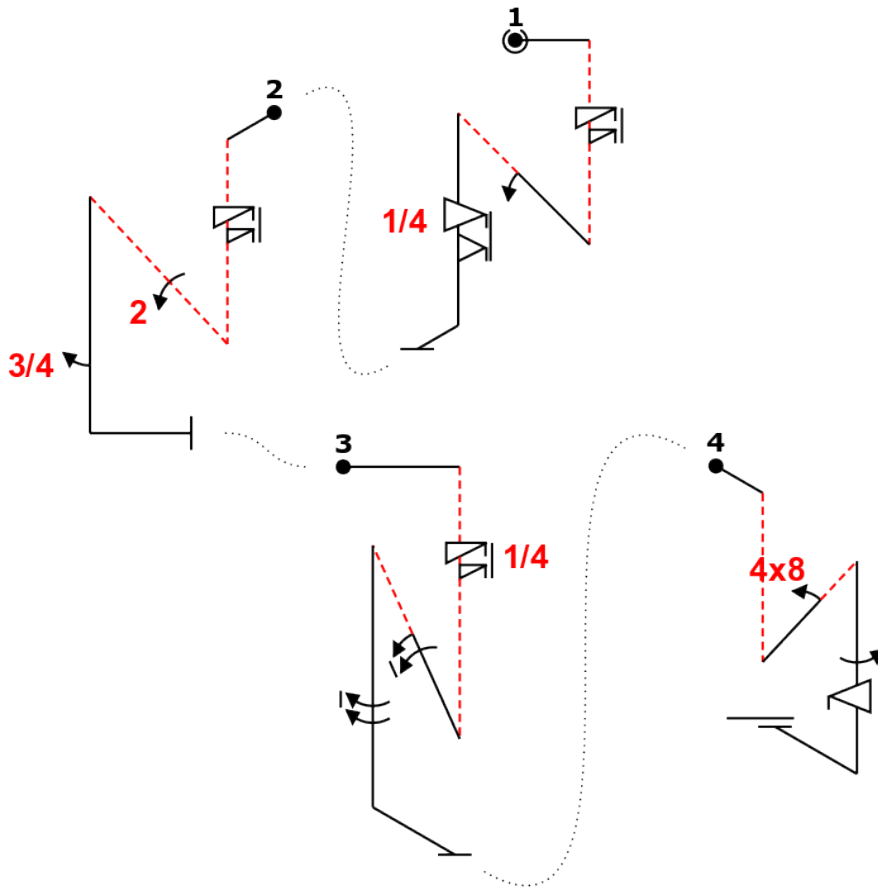
### Answer

- 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) Both B and C

# Question 10

In the sequence below, which Basic Figure has a different catalog number than the others?

(Hint: Aresti Catalog, Family 1.3)



## Answer

- A) Figure 1
- B) Figure 2
- C) Figure 3
- D) Figure 4

## Question 11

You hear the Chief Judge clear an Unlimited competitor into the box. Figure 1 of the competitor's sequence is a humpty-bump. Without Signaling (aka "wing-wags"), the competitor dives into the box and flies a Cuban-8. You should:

(Hint: Rule 14.3.3)

### Answer

- A) Award a 0.0 score to Figure 1 and tell your recorder to write "Wrong Figure" in the Remarks column
- B) Award a HZ to Figure 1 and tell your recorder to write "Wrong Figure" in the Remarks column
- C) Tell your recorder to write a grade in the margin in case the figure turns out to be legitimate
- D) Ignore the figure

## Question 12

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. As a Grading Judge, you should:

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

### Answer

- 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 13

Which of the following does **NOT** meet the definition of an “implicit” program interruption?

(Hint: Rule 15.2.1)

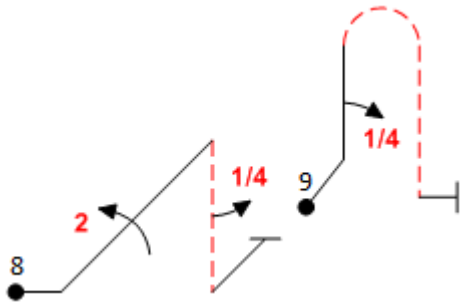
## Answer

- A) Omitting a figure
- B) Adding a half-roll to correct an improper attitude (upright to inverted or vice versa) between figures
- C) Correcting a heading deviation of 90° or more between figures
- D) Flying a horizontal portion of a figure such that the obvious intent is to gain or lose altitude

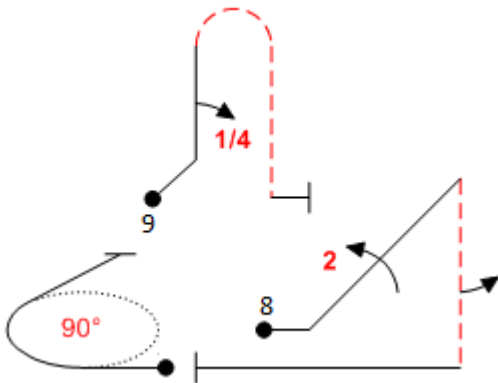


# Question 14

The competitor is expected to fly the sequence of figures below:



You observe the competitor perform the following maneuvers instead:



As a Grading Judge, you should:

(Hint: Rules 15.2.1(a), 26.3.1(b), 26.5.2)

## Answer

- A) Award a 0.0 for Figure 8 and a 0.0 for Figure 9 because the 90° turn is an added figure
- B) Award a HZ for Figure 8, ignore the turn, and grade Figure 9
- C) Award a HZ for Figure 8 and a 0.0 for Figure 9 because the 90° turn is an inserted figure
- D) Award a HZ for Figures 8 and 9 because the 90° turn is an inserted figure

## Question 15

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)

### Answer

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

## Question 16

While grading competitors, you must:

(Hint: Rule 26.1.1)

### Answer

- 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 17

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: Rule 26.2.2)

### Answer

- 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) "*Large angular errors*"

## Question 18

While grading a complex figure, you tally ten points of deductions and then the competitor finishes the figure in the wrong direction. You should:

(Hint: Rule 26.2.3)

### Answer

- A) Award a score of 0.0
- B) Award a score of HZ
- C) Ask the Chief Judge to call a Conference
- D) Tell your Recorder to write "A for Average"

## Question 19

A competitor is supposed to fly this double snap roll:



But instead of rotating  $720^\circ$ , the aircraft rotates  $780^\circ$  ( $60^\circ$  too far). Assuming the figure has no other faults, you should:

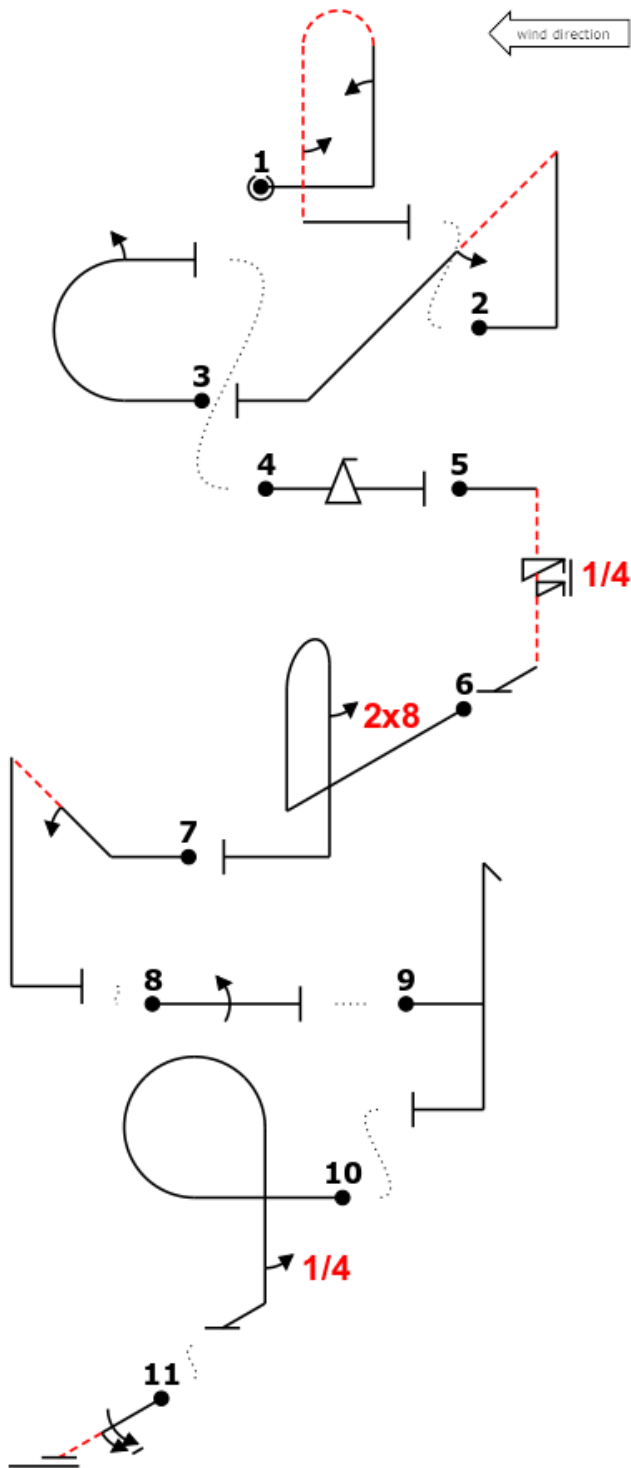
(Hint: Rules 26.2.1(a), 26.3.1(c))

### Answer

- A) Award a -2.0 ( $60^\circ$  error x 1 point per 5 degrees = 12 points, deducted from every figure's starting score of 10.0)
- B) Award a 0.0
- C) Award a HZ
- D) B or C; either is valid

# Question 20

The competitor flies the following sequence as drawn until figure 6, which finishes going upwind. The competitor continues flying the rest of the figures with no interruptions.



You **MUST**:

(Hint: Rules 26.3.1(c), 26.8.1, 26.8.3)

### Answer

- A) Award a Hard Zero (HZ) for figure 6
- B) Award a Hard Zero (HZ) for figures 6, 7, 8, 9, and 10
- C) Award a Hard Zero (HZ) for figures 6 through 11
- D) Grade all the figures because turns that change the flight path from the Y axis to the X axis are non-directional

## Question 21

Under what circumstance(s) would you award a mark of 'A' for Average?

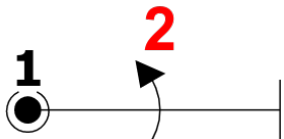
(Hint: Rule 26.4.1)

### Answer

- A) Your assistant calls the wrong figure by mistake, causing confusion about what the competitor is doing
- B) The competitor executes a hammerhead pivot behind a cloud
- C) You miss the beginning of Figure 1 because no one yelled "Heads up!"
- D) Any of the above

## Question 22

As you watch a two-point hesitation roll, you're unsure if the roll stopped completely when the aircraft was inverted.



You should:

(Hints: 26.4.1, 26.5.1, 28.21.5)

### Answer

- A) Award a HZ
- B) Give the pilot the benefit of the doubt, and therefore no deduction
- C) Award an 'A' for average
- D) Answer B or C

## Question 23

A competitor is supposed to fly a loop followed by a hammerhead. However, after 360° of pitch change (i.e., the entire loop), the aircraft continues to pitch up directly into the hammerhead. You should:

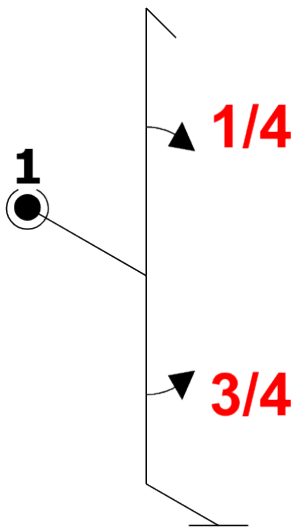
(Hint: Rule 26.7.1)

### Answer

- A) Deduct two points from the loop
- B) Deduct one point from the loop and one point from the hammerhead
- C) Award a HZ for the loop
- D) Award a HZ for the loop and the hammerhead

## Question 24

When performing the following maneuver the competitor **MUST**:



(Hint: Rules 26.8.2, 26.8.3)

### Answer

- A) Pivot the aircraft into the wind at the top of the maneuver
- B) Pivot the aircraft downwind at the top of the maneuver
- C) Fly the 1/4 and 3/4 rolls in opposite directions
- D) Fly the 1/4 and 3/4 rolls in the same direction

## Question 25

The Zero-Lift Axis is:

(Hint: Rules 27.2, 27.3, 27.4)

### Answer

- A) The same as the longitudinal axis on many, but not all, aerobatic aircraft
- B) Used as a reference when judging vertical lines
- C) Used as a reference when judging 45° lines
- D) All of the above

## Question 26

A horizontal line should be flown:

(Hint: Rules 27.5.1, 27.5.2, 34.20.3.1)

### Answer

- A) Parallel to the X or Y axis
- B) At a constant altitude in powered aircraft
- C) At any reasonable angle in gliders
- D) All of the above

## Question 27

Errors in the roll, pitch, and/or yaw axes should be downgraded by:

(Hint: Rules 27.6.1)

### Answer

- A) At least 0.5 points for any noticeable deviation
- B) 1 point per 5° of deviation
- C) 10 points for deviations between 50° and 90°
- D) All of the above





You should:

(Hint: Rules 26.3.1, 26.5.2)

### Answer

- A) Award a HZ for replacing the Figure 2 rolling turn with the Y-axis Shark's Tooth, then score Figure 3 as usual
- B) Award a HZ on Figure 2 for omitting 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 Shark's Tooth, and resume grading on Figure 4 (not shown)
- C) Award a HZ on Figure 2 for omitting 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, then resume grading on Figure 5
- D) Ask the Chief Judge to call a conference to review what happened

## Question 29

As a competitor pulls to a vertical line, you note the pitch attitude (ZLA) reach  $95^\circ$ , but immediately return to  $90^\circ$ . The appropriate downgrade for that error is:

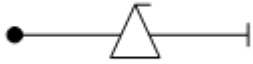
(Hint: Rules 26.6.1, 27.6.1)

### Answer

- A) Not more than 1 point
- B) 1 point
- C) 1 point for the over-pitch plus 1 point for the correction
- D) No downgrade because the aircraft attitude never stabilized at 95 degrees

## Question 30

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 inverted flight, you observe that it has returned to the original attitude and the tail is no longer rotating off-axis in a corkscrew motion. The aircraft continues this on-axis rotation until it returns to upright, wings level flight. Assuming no other flaws, the appropriate score for this figure is:

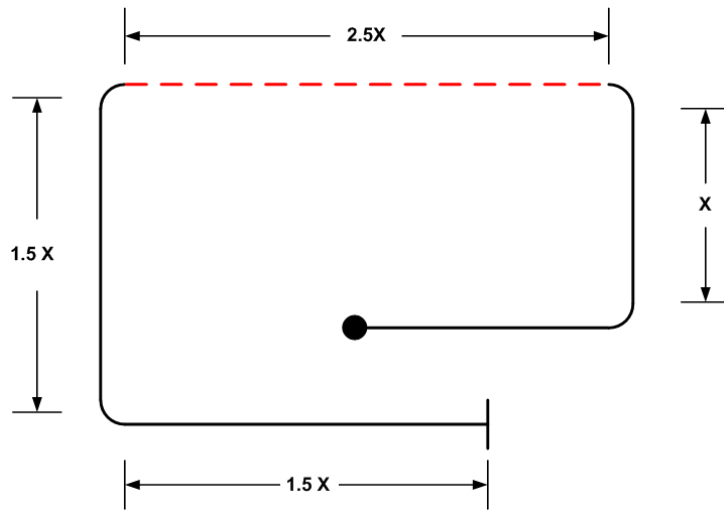
(Hint: Rules 26.3.1(c), 26.9.1, 28.22.2, 28.22.7)

### Answer

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

# Question 31

A competitor flies a square loop that looks like this:



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

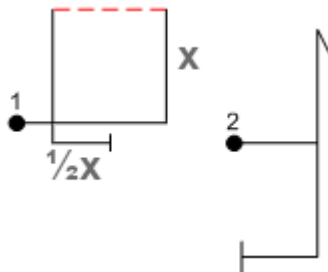
(Hint: Rules 27.9.4, 27.9.5, 28.12.2)

## Answer

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

## Question 32

A competitor flies these figures:



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

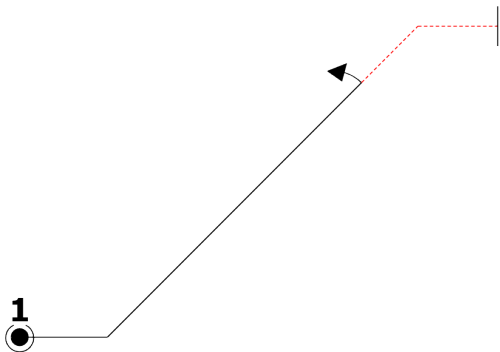
(Hint: Rules 27.9.4 and 28.12.2)

### Answer

- 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 the last horizontal line

## Question 33

A competitor flies a 45° upline with a half-roll. The resulting figure looks like this:



Assuming the line before the roll is 500 feet long and the line after the roll is 150 feet long, you should deduct:

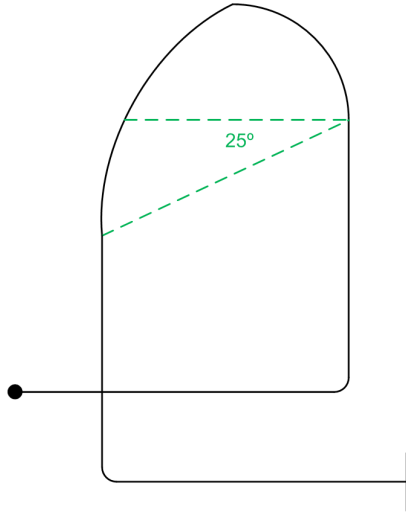
(Hint: Rule 27.9.4)

### Answer

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

## Question 34

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



You **MUST** deduct:

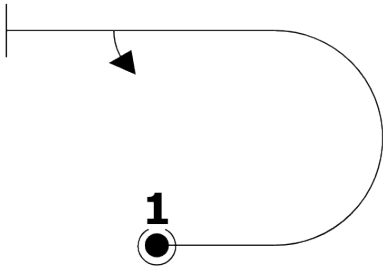
(Hint: Rules 27.10.2, 27.10.4)

### Answer

- A) 1 point
- B) 2.5 points
- C) 5 points
- D) An amount that is consistent your method for scoring radii

## Question 35

You see a competitor fly an Immelman that looks like this:



The appropriate deduction is:

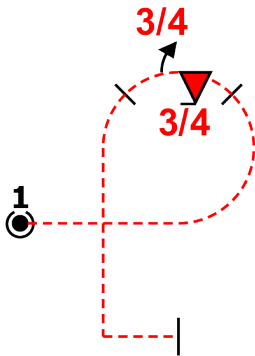
(Hint: Rule 27.11.2)

### Answer

- A) 2 points
- B) 1 point
- C) At least 1 point
- D) No downgrade

## Question 36

A competitor flies the following figure:



You see roll combination begin  $15^\circ$  before the apex of the loop and finish  $25^\circ$  after 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)

### Answer

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



## Question 37

A competitor performs a loop on the X-axis while flying directly over the judges' heads. You should:

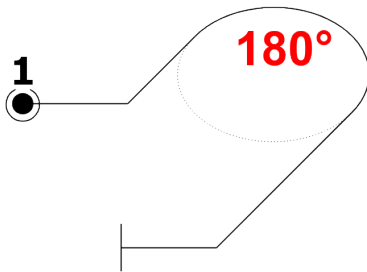
(Hint: Rules 27.15.1, 29.3.1)

### Answer

- A) Score the figure as best you can
- B) Score the figure as best you can and make a mental note to deduct from the Presentation score at the end of the flight
- C) Score the figure as best you can, deduct two points because the figure cannot be properly graded, and make a mental note to deduct from the Presentation score at the end of the flight
- D) Tell your recorder to mark the figure as "A" for Average

## Question 38

At the high point of a wingover, you should deduct 1 point per 5° if:



(Hint: Rule 28.2.2)

### Answer

- A) The bank angle is more or less than 90°
- B) The fuselage is not parallel to the horizon
- C) The aircraft's heading is more or less than 90° from the axis on which the figure started
- D) Any of the above

## Question 39

As a competitor performs a 90° upright competition turn, you see the aircraft roll 50° without changing heading, then begin to change heading while rolling an additional 10°. After 90° of heading change, you see that the roll back to wings-level was slower than the initial roll. Assuming no other defects, you should deduct:

(Hint: Rules 28.5.2, 28.5.4)

### Answer

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

## Question 40

A competitor flies a 360° rolling turn with 4 rolls to the outside, starting from upright. You see the aircraft pass through the upright wings level attitude at 85°, 190°, 265°, and 360° of turn. Assuming no other defects, the appropriate downgrade is:

(Hint: Rules 28.4.2, 28.6.4, 28.6.5)

### Answer

- A) 4 points for being off heading at the cardinal points.
- B) 1.5 to 3 points for the three variations in roll rate.
- C) No deduction because the figure finished on the correct heading
- D) 1 point for every 5° that the aircraft was off heading at the cardinal points

## Question 41

While watching a hammerhead pivot on a calm wind day, you see the aircraft move laterally by two wingspans. The appropriate deduction is:

(Hint: Rule 28.8.3)

### Answer

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

## Question 42

A competitor executes a Hammerhead pivot to their left with a strong wind from their right. The aircraft does not climb or descend during the pivot, and you see no errors in heading, roll or pitch. However, the aircraft moves approximately two full wingspans downwind during the pivot. Your grade should be:

(Hint: Rule 28.8.5)

### Answer

- A) 0.0
- B) 4.0
- C) 7.0
- D) 10.0

## Question 43

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

(Hint: Rules 26.8.2, 28.9.2, 28.9.4, 34.20.5.1)

### Answer

- A) A tailslide drawn with a dashed arc indicates that the aircraft should be inverted halfway through the pivot
- 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 performing a tailslide is only required to slide by a visible amount

## Question 44

Figures in Family 7.8.1 through 7.8.16 have special criteria for:

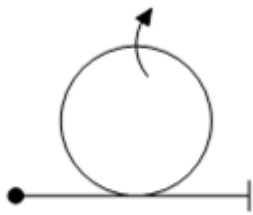
(Hint: Rules 28.16.2, 28.16.3, 28.16.4)

### Answer

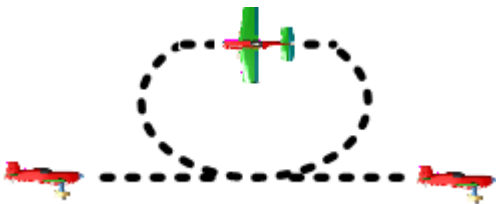
- A) The size of the radii
- B) The altitudes of the radii
- C) Line lengths
- D) All of the above

## Question 45

The competitor is flying the figure below.



The roll is flown on a straight line, like this:



The appropriate deduction for the flat spot is:

(Hint: 27.12.2)

### Answer

- A) At least 0.5 points
- B) At least 1 point
- C) At least 2 points
- D) Any amount, as long as you're consistent

## Question 46

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

(Hint: Rules 27.6.1, 28.21.2, 28.21.4)

### Answer

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

## Question 47

While watching a snap roll, you see the aircraft yaw 5° and roll 5° before any pitch change. The appropriate deduction is:

(Hint: 28.22.3, 28.22.6)

### Answer

- A) 0 points
- B) 1 point
- C) 2 points
- D) HZ

## Question 48

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

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

### Answer

- 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 49

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

(Hint: Rules 29.3.1, 29.3.2)

### Answer

- A) One factor in the Presentation score is the balanced use of the aerobatic box
- B) The competitor is not required to use all the available airspace vertically or on the X and Y axes
- C) Judges must apply their Presentation criteria consistently to every pilot
- D) All of the above

## Question 50

A **glider** competitor performs these figures:

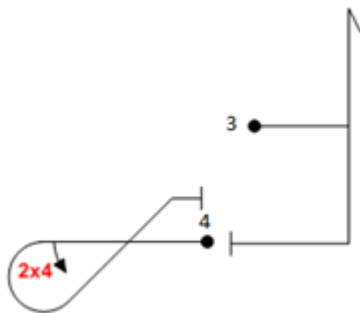


Figure 3 finishes on a line  $10^\circ$  up from horizontal, then the 2x4 roll is executed on the same flight path before transitioning to the looping segment of figure 4. The appropriate downgrade(s) are:

(Hints: 26.6.1, 27.5.1, 27.6.1, 34.20.2.1)

### Answer

- A) Zero points
- B) 2 points on Figure 3
- C) 2 points on Figure 4
- D) 2 points on Figure 3 and 2 points on Figure 4

## Question 51

In a Glider Intermediate sequence, the pilot flies an exact 45° attitude on a 45° internal line. The appropriate deduction is:

(Hints: Rules 27.4.1, 27.6.1, 34.19.1.1)

### Answer

- A) None, because gliders can fly straight lines at any "reasonable angle"
- B) None, because the aircraft's attitude exactly matches the figure as drawn
- C) Three (3) points because Intermediate Glider are expected to fly 45° lines at 30°
- D) None of the above

## Question 52

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

(Hints: Rules 35.11.1, 35.12, 35.13)

### Answer

- A) There are ten grading criteria
- B) Maneuvers do not have to be flown on the X and Y axes
- C) Grades for each criterion range from 0.0 to 10.0 in increments of 0.5
- D) All of the above