



**2020**  
**REGIONAL JUDGE EXAM**



## 2020 REGIONAL JUDGE EXAM

These questions, submitted by widely experienced judges, are organized under chapter headings that generally indicate where the answer may be found in the *IAC Official Contest Rules*. However, some questions may rely on information contained in other chapters or in the *Aresti Aerobatic Catalogue*. Although some may appear to be “trick questions”, this was not the intent. They are intended to highlight some of the many subtleties in IAC Rules of judging aerobatics. Therefore, you may find some truth in more than one answer but there is only one answer that is most correct. Mark that answer on the answer sheet.

NOTE: You must complete this exam and receive a passing grade of 80% as one of the prerequisites for scheduling your Practical (oral) exam (see the current *IAC Official Contest Rules*, section 2.6.1 for more detailed information).

### Glossary

1. A basic figure is:
  - A. any figure flown in the Primary category.
  - B. a loop, a spin, or roll.
  - C. a figure consisting of only one K-factor.
  - D. any figure from Families 1 through 8 of the Aresti Aerobatic Catalogue.
2. The character of a figure is:
  - A. defined by the nature of the entry line of a figure (upright or inverted).
  - B. defined by the nature of the exit line of a figure (upright or inverted).
  - C. determined by the nature of the internal lines and loop segments (positive or negative loading or angle of attack).
  - D. all of the above.
3. Heading is the direction in which the airplane is pointed and in competition is judged:
  - A. always directed into the wind.
  - B. parallel to either the X or Y axis.
  - C. by the direction in relation to the wind shown on forms B or C, of the first figure which begins or ends parallel to the X axis.
  - D. all of the above.
4. Flight path is:
  - 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.
5. A horizontal line is:
  - A. the flight path of an aircraft when flown on a constant heading.
  - B. flown at a constant altitude.
  - C. the line marking the entry and exit of a figure in Gliders, which may be at any reasonable angle.
  - D. all of the above.
6. A “hard zero” (HZ) would be assessed by a judge if the pilot performed \_\_\_ as drawn on Form B or C, whichever is in use.
  - A. a 2 point roll instead of a 4 point roll.
  - B. 4 rolls in a rolling circle instead of 3.
  - C. a 1 ¼ turn spin instead of a 1 ¾ turn spin.
  - D. all of the above.

### Chapter 1 – Contest Job Descriptions

7. Free Program Forms A, B, and C
  - A. Must be checked by a National judge who is current at the time of signing.
  - B. Must have been signed in the current contest year.
  - C. Must be checked by the Chief Judge for name and signature of the certifying Judge and the date signed.
  - D. Must be submitted to the Contest Registrar at least 12 hours before they are to be flown.
8. Boundary Judges are NOT responsible for:
  - A. recording each boundary excursion.
  - B. recording each figure flown outside the boundary.
  - C. reporting each crossing of a boundary(s) to the Chief Judge
  - D. assessing the penalty points for boundary infringements.
9. Which statement is INCORRECT?



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- A. Judges must be selected from the current IAC "Current Judges List" published on the IAC web site.
- B. Judges must be current members of IAC or an organization recognized by IAC.
- C. Judges must attend a Judge's briefing and debriefing.
- D. Judges may not be competitors.

### **Chapter 2 – Qualifications**

10. A competitor:
- A. must possess at least a Commercial Pilot Certificate with rating appropriate for the class of aircraft to be flown.
  - B. Can enter in Power categories in any aircraft using a drivers license or a Basic Med Certificate in place of a current FAA medical certificate.
  - C. must possess a current FAI Sporting License for competition in the Unlimited category.
  - D. must have logged spin training within the last 24 months.
11. New applicants for Regional Judge:
- A. Must complete the Regional Judge Exam within same calendar year as the most recent Judges School that they attended.
  - B. May request a National Judge to select another Judge to jointly administer an oral/written exam prior to receiving a passing grade on the Regional Judge Exam.
  - C. Must have received credit for completing 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.

### **Chapter 4 – Contest Operations**

12. Which of the following is INCORRECT regarding the disqualification of a competitor?
- A. Any single member of the Contest Jury can disqualify a competitor.
  - B. Operation of an aircraft in a manner that casts an image of recklessness on the IAC is grounds for disqualification.
  - C. Entering a "hot box" is a mandatory disqualification for that flight.
  - D. Failure to respond to a recall signal is grounds for disqualification.
13. Which of the following DOES NOT meet the definition of an "implicit" program interruption?
- A. Correcting a heading deviation of 90 degrees or more.
  - B. Adding a half roll to correct an improper attitude (upright to inverted or vice versa).
  - C. Omitting a figure.
  - D. Regaining height, in the case of altitude difficulties.
14. A competitor corrects the major heading error by executing a 180 deg turn and resuming the next figure. The competitor will be assessed:
- A. Two interruption penalties, one for the heading correction and one for failure to signal the resumption.
  - B. No interruption penalty applies.
  - C. One interruption penalty for failure to signal the resumption.
  - D. One interruption penalty for inserting the heading correction.
15. The penalty given for each figure called 100 feet low by the majority of judges is:
- A. Primary and Sportsman – zero program, Intermediate – 100 pts, Advanced – 100 pts, Unlimited – 200 pts.
  - B. Primary – zero program, Sportsman – 10 pts, Intermediate – 20 pts, Advanced – 50 pts, Unlimited 100 pts.
  - C. Primary and Sportsman – zero entire program, Intermediate – 60 pts, Advanced – 90 pts, Unlimited 120 pts.
  - D. Primary and Sportsman – zero entire program, Intermediate – 60 pts, Advanced – 120 pts, Unlimited – 150 pts.

16. Which statement is INCORRECT regarding minimum weather conditions for competition?
- A. Weather conditions that allow a climb to top of the box while maintaining a minimum cloud clearance is most desired.
  - B. Contest flights will not be conducted if crosswind for the active runway exceeds 20 knots or 25 knots in any direction.
  - C. Flight will not be conducted in discernable precipitation.
  - D. The Contest Jury may authorize glider flights in discernable precipitation.

**Chapter 5 – The Flight Programs**

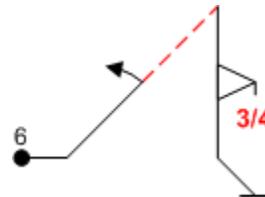
17. Which statement is INCORRECT regarding competition flight programs?
- A. The rules allow for three competition flights for all Power categories plus the Unlimited 4-Minute Freestyle.
  - B. The schedule of flight programs for Intermediate through Unlimited must be in the following order: Known, Free, Unknown, Unlimited 4-minute Freestyle.
  - C. If a third Sportsman flight is scheduled, competitors must repeat the sequence flown on the second flight (Known or Free).
  - D. The Known compulsory is a qualification flight that must be flown before any flying any other flight program.

**Chapter 6 – The Free Program**

18. For errors discovered on Forms A, B, and C during a competitor's flight, what is the definitive criterion?
- A. The figure as it is drawn on Form A.
  - B. The Aresti Aerobatic Catalogue number as it appears on Form A.
  - C. The figure as it is flown.
  - D. The figure as it is depicted on the drawing held by the Judges for grading purposes (Form B or C).
19. Figures 1.1.1.1 to 1.1.1.4 may be repeated in Free program for which categories?
- A. All categories.
  - B. Sportsman and Intermediate.
  - C. Intermediate only.
  - D. All categories except Unlimited.

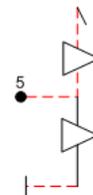
20. The correct Aresti Aerobatic Catalogue number for a snap roll is determined:
- A. by the loading (positive or negative) of the line of the basic figure as drawn in the Catalogue.
  - B. by the loading (positive or negative) of the line of the basic figure following where the snap roll is inserted.
  - C. in all cases, by the loading (positive or negative) of the line of the basic figure unless the angle of attack is explicitly defined as zero.
  - D. by the loading (positive or negative) on the aircraft at the point on the figure where the snap roll is to be inserted, unless the angle of attack is explicitly defined as zero or the snap is required to be initiated from knife-edge flight, where special rules apply.

21. What is the total K-factor for this combination figure?



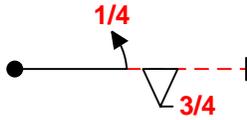
- A. Not useable, illegal construction
- B. 30 K
- C. 29 K
- D. 27 K

22. What is the total K-factor for this combination figure?



- A. Not useable, illegal construction.
- B. 49 K
- C. 51 K
- D. 53 K

23. What is the total K-factor for this combination figure?



- A. Not useable, illegal construction
- B. 15 K
- C. 16 K
- D. 17 K

24. Which statement is CORRECT regarding the rules for constructing figures with multiple rolls?

- A. The tips of the symbols of unlinked rolls of the same type may be in the same or opposite directions.
- B. A 9.4.3.6 hesitation roll meets the “multiple roll” definition and must be annotated with a “6/4” in a Free Program.
- C. The tips of the symbols drawn in opposite directions for unlinked rolls have no bearing on the direction of roll chosen by the pilot, as long as they are flown in opposite directions.
- D. The tips of the symbols of unlinked rolls have no bearing on the roll direction and if drawn with in the same direction may be flown in the same or opposite directions.

25. How is the direction of flight described on the forms for the Free program?

- A. It is not prescribed since all Free programs must begin into the wind.
- B. It is shown as a notation in the “Remarks” section of Form A, e.g, “Downwind Entry”.
- C. The pilot can enter the sequence cross-box, in which case the notation “Y Axis Entry” appears on Form A.
- D. The Form B depicts wind from the Judges right and Form C depicts wind from the Judges left.

**Chapter 7 – Grading and Scoring**

26. When difficulties occur in applying the hard zero (HZ) mark and there is compelling doubt on matters-of-fact on the judging line, the Chief Judge:

- A. should call a conference of Judges on the line as soon as possible.
- B. will tell each grading judge how they would have scored the figure to ensure the proper score is given.
- C. will provide a tie-breaker score to ensure that a majority of judges scored the figure properly.
- D. All of the above.

27. If a minority of judges give a hard zero (HZ) grade for a figure, the minority HZ grades:

- A. must be changed to the lowest grade given by another judge.
- B. will be resolved automatically by the IAC scoring program.
- C. will be changed by replacing the minority hard zero (HZ) grades with the average of the grades from the other judges.
- D. both B and C are true.

28. If a judge is not able to observe an element of a figure to grade it properly, the proper action is to:

- A. grade the figure with a hard zero (HZ).
- B. mark the figure “A” to give the IAC scoring software the authority to replace their mark with the average of the marks of the other judges.
- C. grade the figure based on what was seen and how it sounded.
- D. mark the figure with a score based on the average of the last 3 or 4 previous figures.

29. If a *grading* judge thinks a competitor has flown part of a figure behind the Judge's Line, but is otherwise able to observe the figure, the appropriate action is to:
- grade the figure a numeric zero (0.0) for going behind the Judge's line.
  - continue to grade the figure and make a deduction on the presentation score.
  - mark the figure with an "A".
  - grade the figure a hard zero (HZ) since it must have crossed the Deadline.

**Chapter 8 – Judging Criteria**

30. For powered airplanes all 45° lines are judged:
- on flightpath relative to the true horizon.
  - by comparing the airplane's flightpath relative to the vertical attitude plus or minus 45°.
  - by comparing the airplane's attitude relative to the true horizon plus 45° and are wind corrected.
  - by comparing the attitude of the airplane's zero-lift axis relative to the vertical attitude plus or minus 45° regardless of the effects of wind.

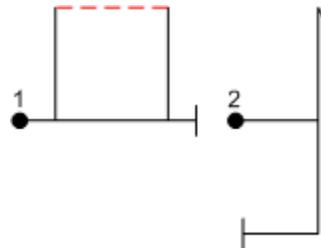
31. While judging a hammerhead figure, you note the airplane starting the pivot late as evidenced by seeing the pivot start but then the airplane CG slide sideways for a short distance before completing the pivot within ¾ of a wingspan of the ideal pivot. The appropriate downgrade is:
- No deduction.
  - Grade the figure a numeric zero (0.0).
  - 2 points.
  - 1 point.

32. An 8.4.1.1 figure is flown with a large smooth radius of transition from horizontal to vertical; a tight, crisp radius at the top; and a large smooth radius from the vertical back to horizontal flight that is unequal to the entry radius. The appropriate deduction is:
- no downgrade should be given.
  - at least one (1) point, depending on the size difference of the radii.
  - one (1) point for each radius change.
  - grade the figure a hard zero (HZ).

33. A competitor completes a figure 15° off heading but corrects the error before starting the next figure. The appropriate deduction is:
- deduct 1.5 points from each figure.
  - deduct 3 points from the first figure only.
  - deduct 3 points from both figures.
  - deduct 3 points from the first figure and assess an interruption penalty.
34. If a competitor flew a rolling turn such that there was still 60° of roll remaining as the 360° turn was completed on a constant heading aligned with the X-axis, the highest grade possible for this figure would be:

- 0.0
- 2.0
- 4.0
- HZ

35. The following excerpt from a sequence is being flown by a competitor:



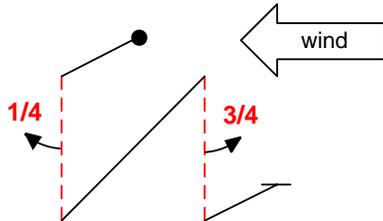
and after pulling to the last horizontal line of the square loop, draws a line half as long as the first vertical line and then performs the ¼ loop to the vertical for the hammerhead. The appropriate deduction is:

- Grade the square loop as a hard zero (HZ) because it was not completed before the hammerhead was started.
- Grade the square loop a hard zero (HZ) because it was not finished before starting the hammerhead and downgrade the hammerhead by one (1) point for no line between figures.
- Deduct two (2) 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(2) points from the square loop for the 1:2 ratio error in length of the last horizontal line.

36. When judging this figure:

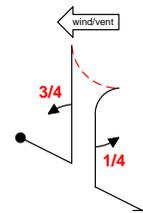


- A. The entry and exit directions are at the option of the pilot, but the 45° line must be flown upwind
- B. The 45° line must be flown upwind and the exit direction must be opposite relative to the entry direction
- C. The 45° line must be flown downwind and the exit direction must be the same relative to the entry direction
- D. The direction of the entry, 45° line, and exit are all at the pilot's option

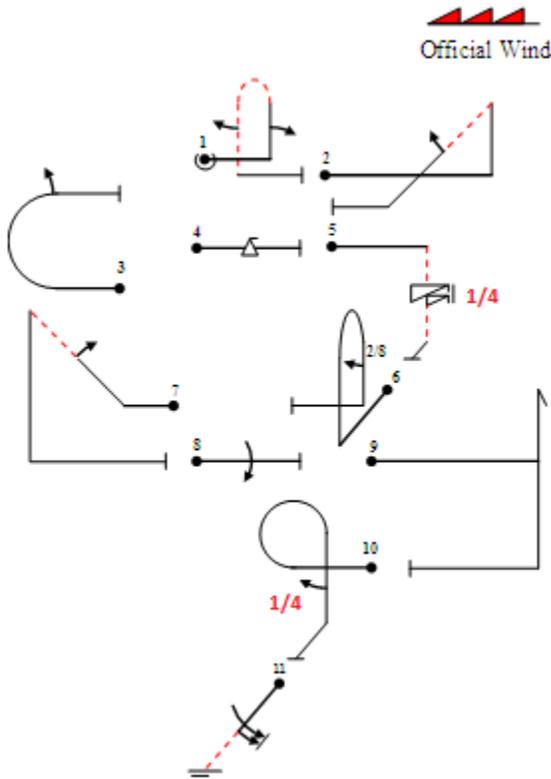
37. With regard to the Presentation grade, which of the following statements are CORRECT?

- 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. It is required to use all the available airspace vertically or on the X and Y axes.
- C. It is important that Judges be consistent in applying the Presentation grade criteria to every pilot in the program.
- D. A and C.

38. When judging this tail slide, the judge must observe:



- A. The airplane slide into the wind
- B. The exit direction flown is the same direction relative to the entry
- C. The 1/4 roll flown in the same direction as the 3/4 roll
- D. Answers A, B, and C are all correct



39. In the sequence shown to the left, the competitor flew Figure 1 into the wind from the judge's left as briefed. The competitor continues through the sequence as drawn until exiting figure 6 into the wind heading to the judge's right. The competitor proceeds to fly the rest of the sequence in the order of figures listed, with no interruptions. The judges must:

- 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 since turns from the Y axis are non-directional.

40. In a Glider Intermediate sequence, the pilot flies a 45° attitude on a 45° internal line of an otherwise perfect figure. The appropriate deduction is:

- A. none, give the figure a grade of 10.0.
- B. three (3) points for the 15° error.
- C. Hard zero (HZ) the figure for not flying a 30° line.
- D. none of the above.

**Checking an Intermediate Freestyle**

Questions 41 through 50 refer to an Intermediate Free Program shown on the following three pages that you have been asked to check and approve just before a contest. Refer to the Judge's Checklist for Freestyle Programs in the *IAC Official Contest Rules*, section 6.16 and the *Aresti Aerobatic Catalogue* as you answer these questions.

41. The number of figures in the proposed Free program meets the requirements for the category.

- A. True
- B. False

42. The sequence includes all the required versatility elements required for the category.

- A. True
- B. False

43. There are \_\_\_ illegal repetitions of basic or complementary figure catalogue numbers on Form A.

- A. 0
- B. 1
- C. 2
- D. 3 or more

44. There is/are \_\_\_ illegally constructed figure drawings on Form C.

- A. 0
- B. 1
- C. 2
- D. 3 or more



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45. There are \_\_\_ figures with incorrect catalogue numbers, incorrect K-factors, or that do not agree with the drawing on Form A.
- A. 0
  - B. 1
  - C. 2
  - D. 3 or more
46. The total sequence K-factor as listed on Form A does not exceed the maximum allowed for the category.
- A. True
  - B. False
47. The Presentation K-factor listed is correct for the category.
- A. True
  - B. False
48. The Forms B and C drawings agree with all Catalogue drawing conventions and agree with the Catalogue numbers and drawings listed on Form A in every detail.
- A. True
  - B. False
49. An “optional break” symbol, that depicts where a competitor must break if weather or altitude are problems is required to be shown on Forms B and C.
- A. True
  - B. False
50. This Free program is legal, is drawn of correct forms, and can be certified by a current IAC Judge by signing their name and date on all three forms.
- A. True
  - B. False



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INTERNATIONAL AEROBATIC CLUB SCORESHEET																		
A	Contest:				Date:	Category:	Programme:	pilot's number										
						Intermediate	Free											
No	Symbol	Catalogue No.	K	Total K	Grade	Remarks	Item	K	Score									
1		8.4.3.1 9.1.1.2 9.1.5.2	15 8 4	27 SF 00			<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"><b>Presentation</b>      <b>15</b></div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">FIGURE TOTAL K =      <b>190</b></div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">INCLUDING PRESENTATION =      <b>205</b></div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">Aircraft Type: <b>S-1-450</b></div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 33%; border-right: 1px solid black; padding: 5px;">Signature:</td> <td style="width: 33%; border-right: 1px solid black; padding: 5px;">Printed Name:</td> <td style="width: 33%; padding: 5px;">Date:</td> </tr> <tr> <td style="border-right: 1px solid black; padding: 5px;">FREE PROGRAM CHECKED BY:</td> <td style="border-right: 1px solid black; padding: 5px;"></td> <td style="padding: 5px;"></td> </tr> <tr> <td style="border-right: 1px solid black; padding: 5px;"></td> <td style="border-right: 1px solid black; padding: 5px;">IAC No.</td> <td style="padding: 5px;"></td> </tr> </table> </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">Judge Name:</div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">IAC#</div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">Assistant Name:</div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">IAC#</div> <div style="text-align: center; margin-top: 20px;"> </div> <div style="text-align: right; margin-top: 20px;"> </div>	Signature:	Printed Name:	Date:	FREE PROGRAM CHECKED BY:				IAC No.			
Signature:	Printed Name:	Date:																
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2		1.2.7.1 9.4.4.2	13 5	18 SF 00														
3		7.2.2.1 9.1.3.4 9.1.3.2	6 8 4	18 SF 00														
4		1.1.1.1 9.9.3.4	2 11	13 SF 00														
5		1.1.6.3 9.11.1.6	10 3	13 SF 00														
6		8.4.1.1 9.1.5.1	13 2	15 SF 00														
7		2.1.1.1	3	3 SF 00														
8		1.2.3.1 9.1.2.2	12 6	18 SF 00														
9		8.5.6.1 9.1.4.2	10 4	14 SF 00														
10		1.1.1.1 9.2.3.4	2 9	11 SF 00														
11		5.2.1.1	17	17 SF 00														
12		8.6.5.1	11	11 SF 00														
13		1.1.1.3 9.1.3.6	2 10	12 SF 00														

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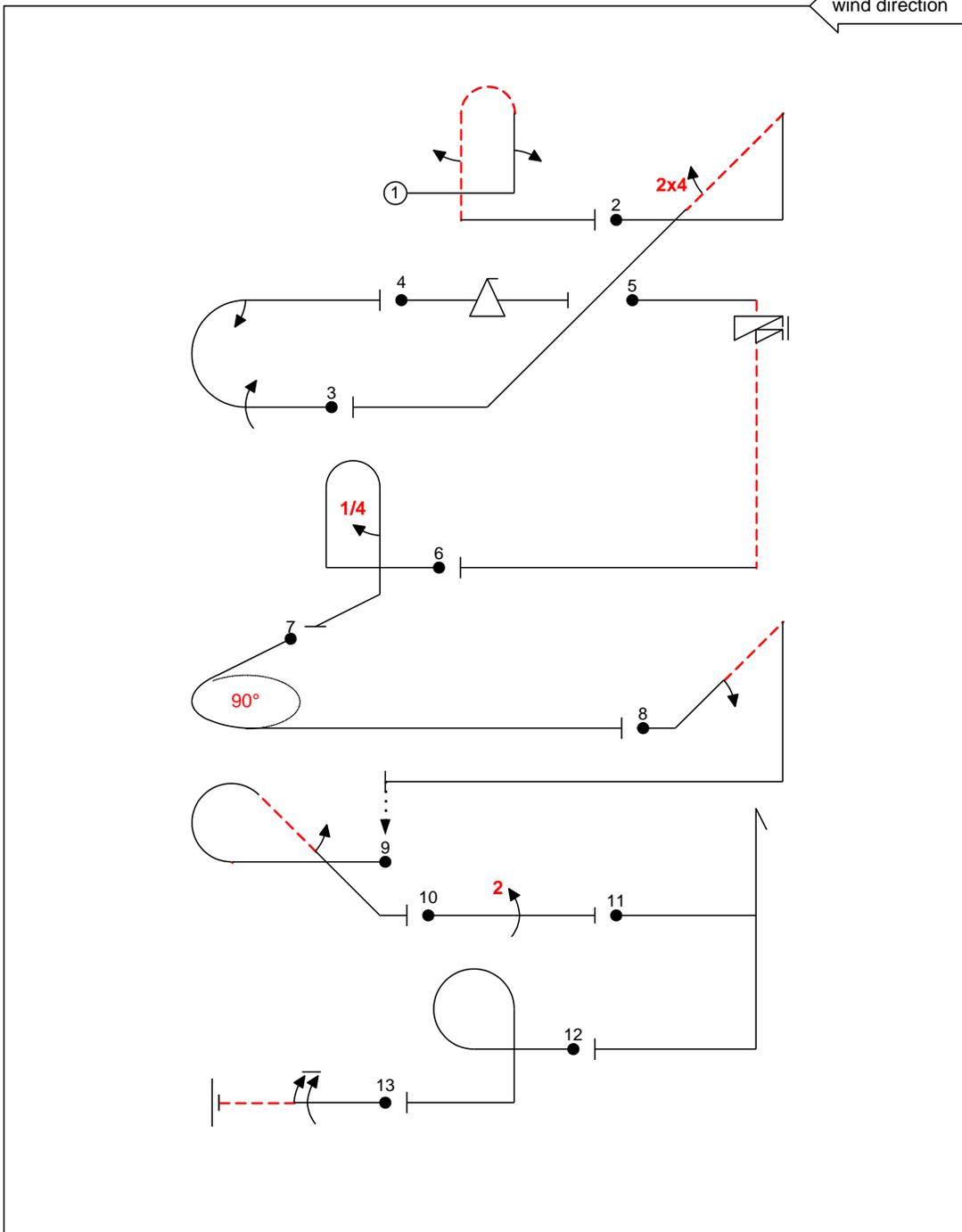


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<b>B</b>	Contest:	Category:
	Date:	Program:
	<b>Free</b>	<b>Intermediate</b>

Ima Yankenbanker  
pilot  
NAC



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S-1-450

A/C:

(signature/date)

FREE PROGRAM CHECK BY:



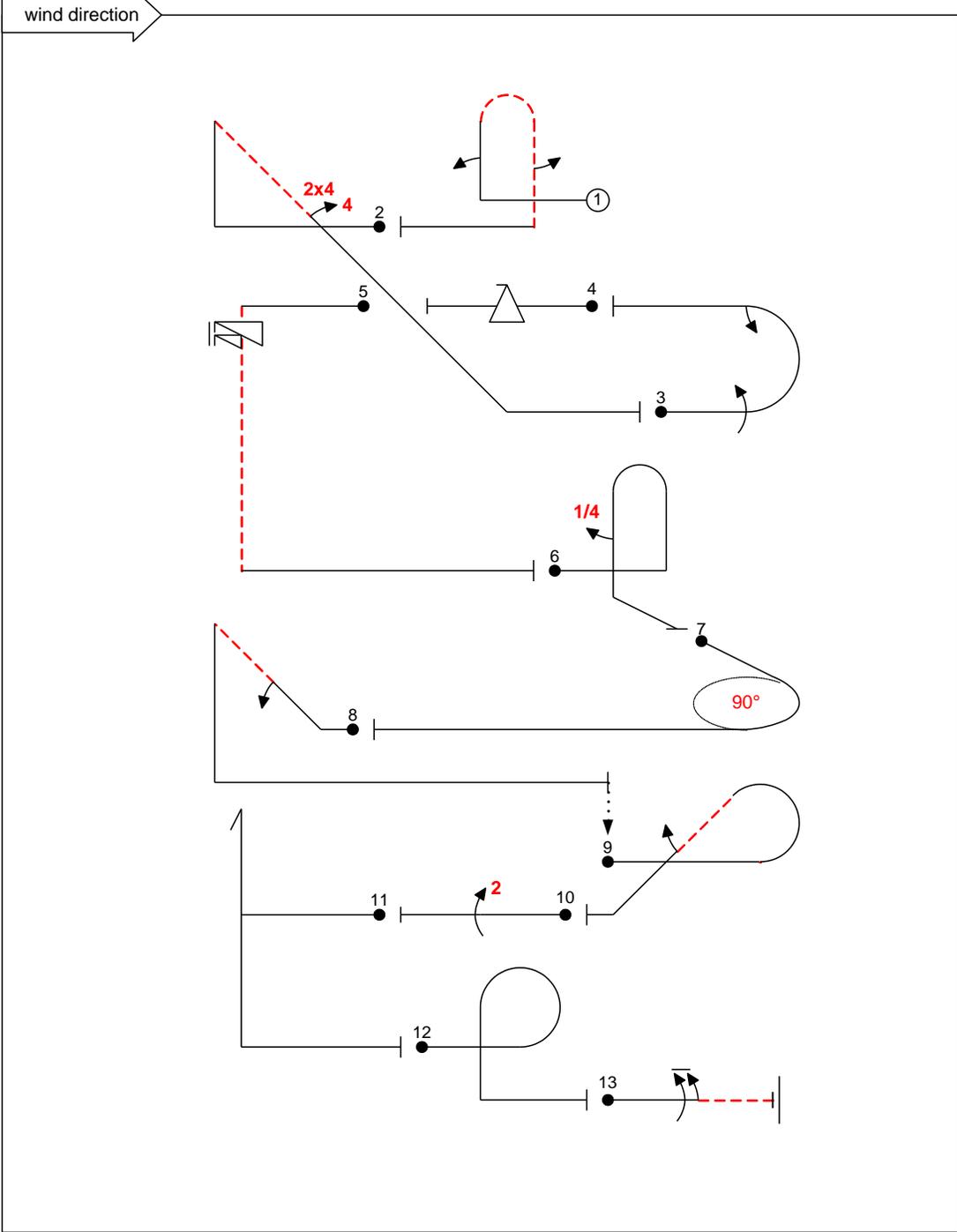
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<b>C</b>	Contest:	Category: <b>Intermediate</b>	
	Date:	Program: <b>Free</b>	Pilot's No. <input type="text"/>

*Ima Yankenbanker pilot*

NAC



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S-1-450

A/C:

(signature/date)

FREE PROGRAM CHECK BY: