



# **NATIONAL JUDGE EXAM**



## NATIONAL JUDGE EXAM

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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 Catalog*. Although some may appear to be “trick questions”, this was not the intent. They are intended to highlight some of the many subtleties in 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.

### **Chapter 1 – Contest Job Descriptions**

1. The Contest Director is the general manager of the IAC contest. Select from the following statements those activities for which the Contest Director is responsible.
  - A. Flight line control
  - B. Determines direction of flight
  - C. Acceptance of entry fees
  - D. Certification of final scores
2. At an aerobatic contest, which type of body is the jury?
  - A. An administrative body
  - B. A judging body
  - C. An arbitration body
  - D. A financial body
3. Which statement about the contest jury is INCORRECT?
  - A. The Contest Jury is appointed by the Contest Director except the U.S. Nationals Contest Jury, which is appointed by the IAC Board.
  - B. It must include a pilot.
  - C. It may be presided over by a person designated by the Contest Director.
  - D. Jury members are to keep the proceedings, discussions, and voting of the Contest Jury strictly confidential.

4. Boundary judges are NOT responsible for:
  - A. recording each boundary excursion
  - B. recording each figure flown outside the boundary
  - C. reporting by radio, to the Chief Judge each crossing of the boundary(s)
  - D. assessing boundary infringement penalties

### **Chapter 2 – Qualifications**

5. Which of the following statements regarding appointments of Chief Judges for a Regional Contest is INCORRECT?
  - A. Chief Judges are appointed by the Contest Director
  - B. Chief Judges must be selected from the IAC Approved List of Judges
  - C. A Regional Judge may not be appointed as Chief Judge if a National Judge is available
  - D. Chief Judges may not act as a Grading Judge for the category they are acting as Chief Judge
6. National Judges are required as:
  - A. Chief Judge of each category.
  - B. members of the contest jury.
  - C. Grading Judges at the U.S. Nationals.
  - D. both Judges administering Practical exams for Regional Judge applicants.

### **Chapter 4 – Contest Operation Procedures**

7. The Chief Judge, or his/her designated representative, will conduct the pilot's briefing for:
  - A. all competitors in the category
  - B. all judges in the category
  - C. all Contest Officials
  - D. all of the above



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8. Who determines the validity of a competitor's claim that they aborted because of weather and when to schedule a flight of the unfinished portion of the program?
  - A. Starter
  - B. Contest Director
  - C. Judges
  - D. Contest Jury
9. Which of the following does NOT meet the definition of an "implicit" program interruption?
  - A. Omitting a figure
  - B. Adding a half slow-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. Deliberately climbing between figures or flying any figure in a way such that the obvious intent is to regain altitude
10. Which of the following is correct for the Chief Judge to clear a competitor into the box?
  - A. By igniting a 60 second orange smoke in front of the Judges Line.
  - B. By a radio transmission clearing the competitor into box. No acknowledgement is required. The radio is primary control.
  - C. By telephone coordination with ATC to have them clear the competitor into the airspace.
  - D. By calling the competitor on the radio, and after receiving radio acknowledgement, clearing him/her into the box. The radio is primary control.
11. A competitor will be denied continuation in a category when:
  - A. The competitor received 6 grades below 5.0 in a 12 figure sequence.
  - B. The competitor flew 75% of the Known sequence in the wrong direction.
  - C. The competitor omits 4 of 12 figures.
  - D. A majority of the judges determine the competitor has demonstrated an inability to safely control the aircraft.

### Chapter 7 – Grading and Scoring

12. If any judge is not able to observe an element of a figure, the judge must:
  - A. mark the figure as a zero.
  - B. mark the figure an "A" (average) based on the last 3 or 4 previous figures.
  - C. 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 on Form A.
  - D. mark the figure based on the elements that were seen and how the figure sounded.
13. If a minority of judges give an HZ grade for a figure, the grades of judges in the minority:
  - A. must be changed to the lowest mark given by another judge.
  - B. will be resolved automatically by the IAC scoring program.
  - C. will be replaced with the average of the grades given by the majority judges.
  - D. both B and C.
14. When a mixture of HZ and numeric marks are awarded for a figure and there is compelling doubt about 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 should have graded the figure.
  - C. will provide a tie-breaker grade to ensure that a majority of judges graded the figure properly.
  - D. Any of the above.



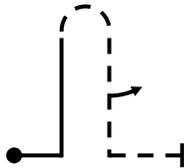
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15. With regard to the Presentation grade, which statement is NOT true?
- Judges give a presentation grade according to the total impression of the balanced use of the aerobatic box and over all presentation of the sequence.
  - The competitor is not required to use all the available airspace vertically or on the X and Y axes.
  - It is important that Judges be consistent in applying the Presentation grade criteria to every pilot in the program.
  - The Presentation grade is a cumulative grade based on individual figure placement in the box.
- Chapter 8 – Judging Criteria**
16. In Power categories, all 45° lines are judged:
- on flightpath relative to the true horizon.
  - on flightpath relative to the vertical attitude plus or minus 45°.
  - on attitude relative to the true horizon plus 45° and are wind corrected.
  - on attitude of the airplane's zero-lift axis relative to the vertical attitude plus or minus 45° regardless of the effects of wind.
17. An 8.4.1.1 figure is flown with a large constant radius of transition from horizontal to vertical; a tight, constant radius at the top; and a large constant radius from the vertical back to horizontal flight identical to the entry radius. The appropriate deduction is:
- at least 1 point, depending on the size difference of the radii.
  - no downgrade should be given.
  - 1 point for each radius change.
  - zero the figure.
18. Adding a line between a half loop and a half roll results in a downgrade of:
- 2 points
  - 1 point
  - at least 1 point
  - no downgrade
19. If a competitor proceeds along the X axis, maintaining a heading parallel to the X axis but is traveling across the box, the judges:
- should downgrade for the apparent sideslip using the 1 point for 5° error criteria.
  - should not apply a downgrade.
  - should downgrade at least 1 point for each error in track.
  - should downgrade each figure where the crabbing is obviously occurring but not seen.
20. Which of the following is NOT part of the grading criteria for Family 7 figures?
- All 7.4.5.x figures flown into a 10 knot wind must be wind corrected to close at their completion.
  - All 7.4.1.x to 7.4.14.x and 7.8.17.x to 7.8.22.x figures begin and end at the same altitude.
  - In a 7.4.3.1 figure, all internal lines, including the fourth side must be equal in length to the first side, which is the 1<sup>st</sup> vertical line.
  - In all figures from family 7.3, the 45° lines do not bear any relation to the diameter of the looping segment.
21. In Family 2.4 360 deg Rolling Turns, if 2.4.5.4 is flown so the prescribed three rolls are completed at 345° of turn, the grade must be reduced for this error by:
- 1 point.
  - 2 points.
  - 3 points.
  - 4 points.
22. During a rolling turn, the roll rate is observed to stop once momentarily. The judge should:
- zero the figure.
  - deduct no more than 1 point.
  - deduct 2 points.
  - deduct 1 point.



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23. A competitor is required to fly the following figure:



but omits the  $\frac{1}{2}$  roll on the down line and



compensates as follows:

The proper action on the Judging Line is:

- A. The Grading Judges HZ the figure.
  - B. The Grading Judges zero the figure and the next figure (for inserting a figure).
  - C. The Grading Judges HZ the figure and note an interruption in the remarks column on Form A; the Chief Judge assesses an interruption penalty.
  - D. The Grading Judges grade the figure normally and assess an interruption penalty.
24. In a  $360^\circ$ , 4 rolls to the outside, rolling turn starting from upright, the aircraft is observed to return to upright wings level at  $85^\circ$ ,  $190^\circ$ ,  $265^\circ$ , and  $360^\circ$  of turn. If there were no other defects, the appropriate down grade is:
- A. a deduction of 4 points for being off heading at the cardinal points.
  - B. a deduction of 1.5 to 3 points for the three variations in roll rate.
  - C. no deduction because the figure was finished on heading.
  - D. deduct 1 point for every  $5^\circ$  that the plane was off heading at the cardinal points.

25. How much below the lower height limit must an Advanced competitor fly to receive a zero for the entire program?

- A. 164 feet
- B. 328 feet
- C. more than 200 feet
- D. more than 328 feet

26. During a snap roll, the airplane is observed to exit autorotation  $60^\circ$  before completing the prescribed rotation but continue rolling with aileron. The appropriate downgrade is:

- A. zero the figure
- B. no deduction since the roll never stopped
- C. at least a 2 point deduction
- D. at least a 4 point deduction

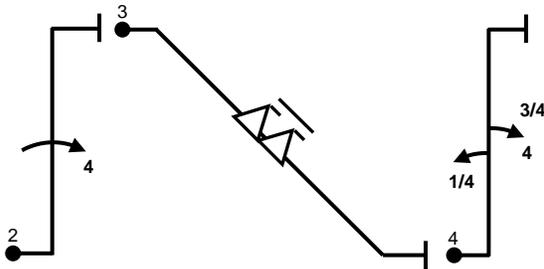
27. When a competitor flies a figure consisting of a  $\frac{1}{2}$  loop followed by a full slow roll, the roll should:

- A. be completed at a point directly above where the  $\frac{1}{2}$  loop began
- B. be completed on the horizontal line
- C. start where the  $\frac{1}{2}$  loop ends
- D. both B and C

28. While judging a hammerhead figure, you note the airplane starting the pivot late as evidenced by seeing pivot start but then the airplane CG slide sideways for a short distance before completing the pivot within  $\frac{3}{4}$  of a wingspan. The appropriate downgrade is:

- A. 2 points.
- B. 1 point.
- C. no deduction.
- D. zero the figure.

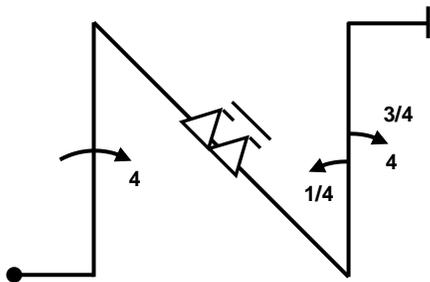
29. A competitor performs the following figures:



The judge observes a 5 degree error in two of the points in figure 2, the attitude is 5 degrees shallow on figure 3, and two of three hesitations were 5 degrees off in the  $\frac{3}{4}$  hesitation roll on figure 4. Assuming no other defects, the appropriate grades for these figures are:

- A. 8.0 for figure 2, 8.5 for figure 3, and 7.0 for figure 4.
- B. 8.0 for figure 2, 9.5 for figure 3, and 8.0 for figure 4.
- C. 8.0 for all three figures.
- D. 8.0 for figure 2, 9.0 for figure 3, and 8.0 for figure 4.

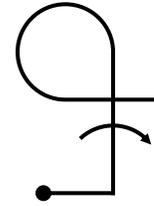
30. A competitor performs the following figure:



The judge observes a 5 degree error in two of the points of the four point roll, the attitude is 5 degrees shallow on the 45 deg down line, and two of three hesitations were 5 degrees off in the  $\frac{3}{4}$  hesitation roll on the last vertical line. Assuming no other defects, the appropriate grade for this figure is:

- A. 8.5
- B. 7.0
- C. 6.0
- D. 5.0

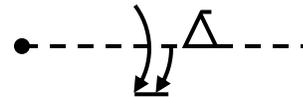
31. In the following figure,



the line after the vertical roll is observed to be four times longer than the line before the roll. The appropriate downgrade is:

- A. Zero the figure
- B. Deduct 2 points
- C. Deduct 3 points
- D. Deduct 4 points

32. In the following figure the snap roll MUST be



flown:

- A. to the left
- B. to the right
- C. the same direction as the slow roll
- D. the opposite direction as the slow roll

33. Glider Intermediate pilots:

- A. have the option of flying 45° lines as 30° lines
- B. must fly 45° lines as 30° lines
- C. must fly 45° lines as drawn
- D. none of the above

34. In Gliders, a snap roll on the down line of a hammerhead:

- A. must be centered on the line
- B. need not be centered on the line
- C. can occur anywhere on the down line
- D. Both B and C are correct

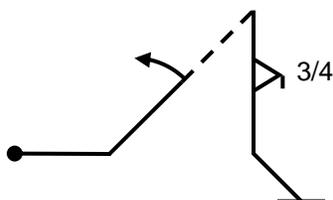


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35. In a rolling turn being flown by a glider competitor, the turn:

- A. must be flown level with the true horizon
- B. may be flown at any constant, reasonable angle to the horizon
- C. may be flown at any constant, reasonable angle as long as the turn finishes on a true horizontal line.
- D. none of the above

36. In the following figure, all loop radii:



- A. Must all be the same radius.
- B. Can all be of different radii.
- C. Only the first 1/8<sup>th</sup> loop and the final 1/4 loop must be of the same radius.
- D. Only the first 1/8<sup>th</sup> loop and the second 3/8<sup>th</sup> loop at the top must be of the same radius.

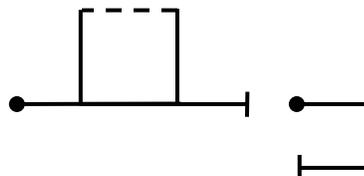
37. If a *grading* judge thinks a competitor has started a figure behind the Judge's Line, the appropriate action is to:

- A. give the figure a zero for going behind the Judge's line.
- B. continue to grade the figure and make a deduction on the presentation grade.
- C. give the IAC scoring software the authority to average the grades of the judges who did give the figure a grade by putting an "A" in the grade field on Form A.
- D. zero the figure since it must have been across the Deadline.

38. A competitor completes a figure 30° off heading but corrects the error before starting the next figure. The appropriate deduction is:

- A. deduct 6 points from each figure
- B. deduct 6 points from the first figure only
- C. deduct 6 points from either figure
- D. deduct 6 points from the first figure and assess an interruption penalty

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



and upon reaching wings level horizontal flight, the competitor continues to radius to the vertical for the next figure with no discernable horizontal line. The grading Judges and Chief Judge should:

- A. deduct 4 points from the first figure for the missing last line, plus 1 additional point for "no line between" for a total deduction of 5 points and deduct 1 point from the second figure.
- B. deduct 4 points from the first figure for the missing last line and deduct 1 point from the second figure for "no line between".
- C. zero the first figure for the missing last line and deduct 1 point from the second figure for "no line between".
- D. Zero the Hammerhead because it was completed completely outside the box.

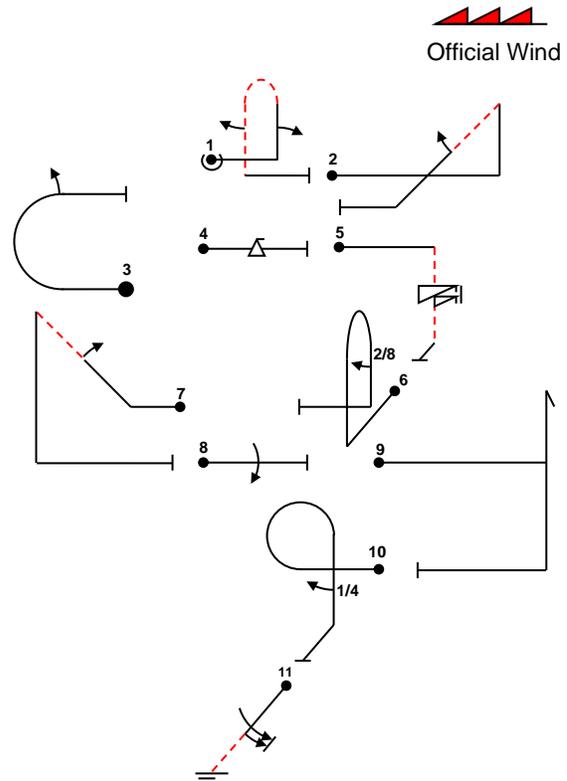


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40. In the sequence shown at right, the competitor flew Figure 1 into the wind from the judge's left as briefed. The competitor continues through the sequence as drawn until exiting figure 6 into the wind heading to the judge's right. The contestant realizes the error, takes an interruption, repositions and resumes the sequence starting at figure number 1. The grading judges should (select your answer from the choices in the next column):

(Answer choices for question 40)

- A. The Grading Judges zero figure 6, ignore the re-flown figures 1 through 6, and resume grading starting with figure 7. The Chief Judge will assess an interruption penalty plus an additional interruption penalty for improper resumption of the sequence.
- B. The Grading Judges zero figure 6, ignore the re-flown figures 1 through 6, give figure 7 a zero for the improper resumption of the sequence, and resume grading starting with figure 8. The Chief Judge will assess an interruption penalty plus an additional interruption penalty for improper resumption of the sequence.
- C. The Grading Judges zero figure 6 and all subsequent figures for substituting the re-flown figures 1 through 6 for figures 7 and subsequent. The Chief Judge will assess an interruption penalty plus an additional interruption penalty for improper resumption of the sequence.
- D. The Grading Judges zero figure 7, ignore re-flown figures 1 through 7, and resume grading with figure 8. The Chief Judge will assess an additional interruption penalty for improper resumption of the sequence.





**Checking an Unlimited Freestyle**

Questions 41 through 50 refer to an Unlimited Free Program shown on the following three pages that you have been asked to check and approve. Refer to the Judge's Checklist for Freestyle Programs in the *IAC Official Contest Rules*, section 6.14 as you answer these questions.

- 41. The number of figures in the proposed Unlimited Free Program does not exceed the limits 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 catalog numbers on Form A.
  - A. 0
  - B. 1
  - C. 2
  - D. 3 or more
- 44. There are \_\_\_ illegally constructed figure drawings on Form A.
  - A. 0
  - B. 1
  - C. 2
  - D. 3 or more
- 45. There are \_\_\_ figure(s) with incorrect catalog 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 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 conform to catalog drawing conventions and agree with the catalog numbers listed on Form A in every detail.
  - A. True
  - B. False
- 49. An "optional break" symbol is required to be shown on Forms B and C.
  - A. True
  - B. False
- 50. This Free program is legal and can be certified by a current IAC Judge by signing their name and approval date on all three forms A, B, and C. Additionally, the judge must also print their name and IAC number on Form A.
  - A. True
  - B. False



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INTERNATIONAL AEROBATIC CLUB SCORESHEET										
A	Contest:				Date:	Category:	Programme:	pilot's number		
						Unlimited	Free			
No	Symbol	Catalogue No.	K	Total K	Grade	Remarks	Item	K	Score	
1		5.2.1.3 9.1.1.2 9.9.1.4 9.9.5.4	18 8 15 11	52 SF 05			<b>Presentation</b> 40  FIGURE TOTAL K =      420  INCLUDING PRESENTATION = <b>460</b>  Aircraft Type:  <b>Ultimate Monoplaneski</b>  FREE PROGRAM CHECKED BY: Signature: _____ Printed Name: _____ IAC No: _____ Date: _____  Judge Name: _____ IAC# _____  Assistant Name: _____ IAC# _____    <i>Ima Yankenbanker Pilot</i>			
2		6.2.2.4 9.2.1.4 9.2.5.4	17 13 9	39 SF 06						
3		1.3.12.1 9.4.1.4 9.10.4.6 9.4.1.2	21 15 16 9	61 SF 07						
4		7.8.15.3 9.9.4.8 9.1.4.1 9.1.4.3 9.1.4.6	23 17 2 6 10	58 SF 07						
5		5.2.1.1 9.10.6.4 9.9.5.3	17 19 11	47 SF 05						
6		1.3.14.1 9.1.1.3 9.9.4.4 9.1.4.4 9.1.1.4	22 10 11 8 12	FP 62 (63) [SF07]						
7		8.6.1.4 9.12.1.4 9.1.3.4 9.10.3.4	12 7 8 13	40 SF 07						
8		2.2.5.2	23	23 SF 02						
9		1.2.5.2 9.9.4.5 9.1.4.5	16 13 9	38 SF 07						

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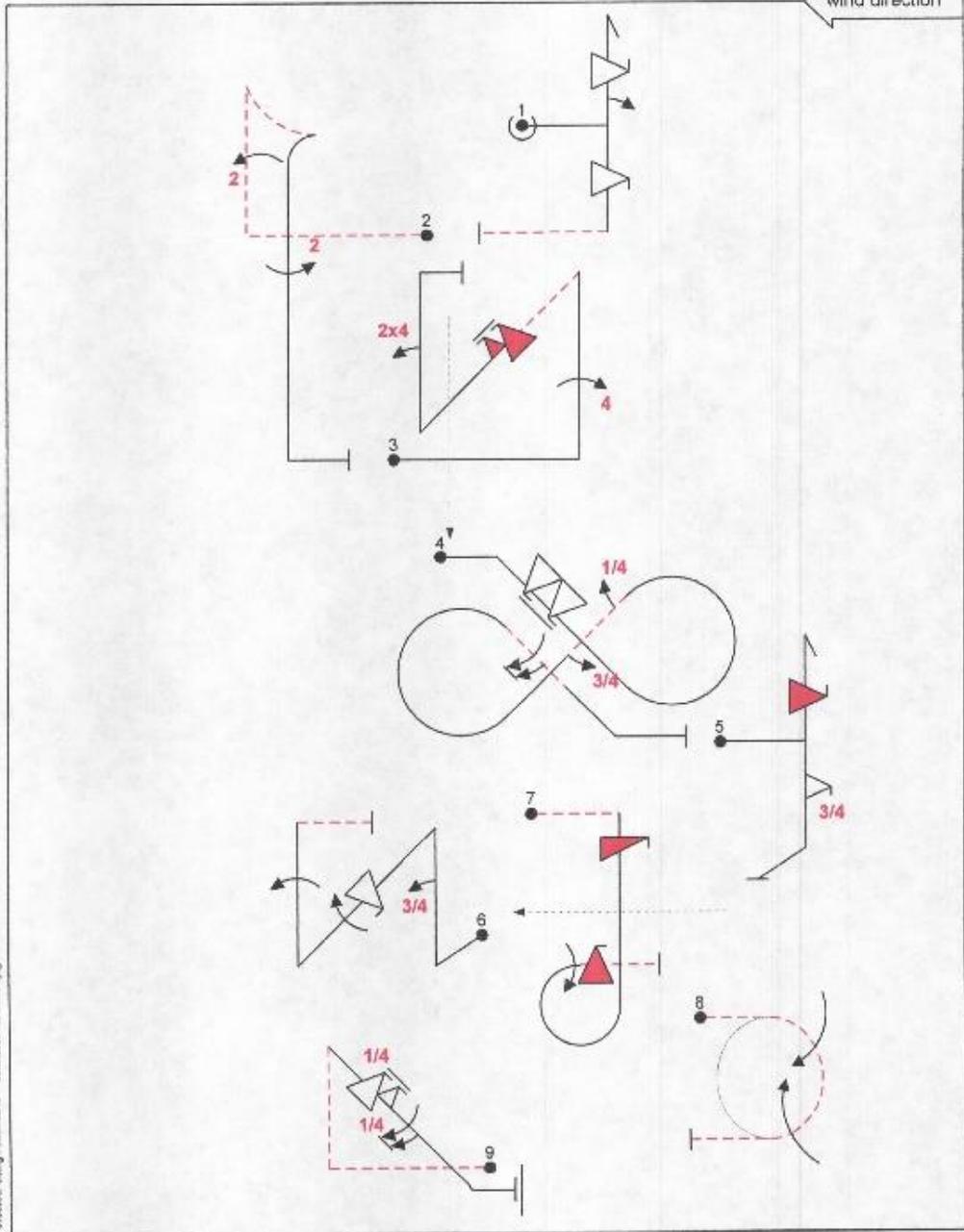
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<b>B</b>	Contest	Category: <b>Unlimited</b>
Date:	Program: <b>Free</b>	Pilot's No. <input type="text"/>

Ima Yankenbanker Pilot

wind direction



Created Using Power 2013™ software. ACCases@gsd.com

A/C: Ultimate Monoplaneski  
FREE PROGRAM CHECK BY: (signature/date)

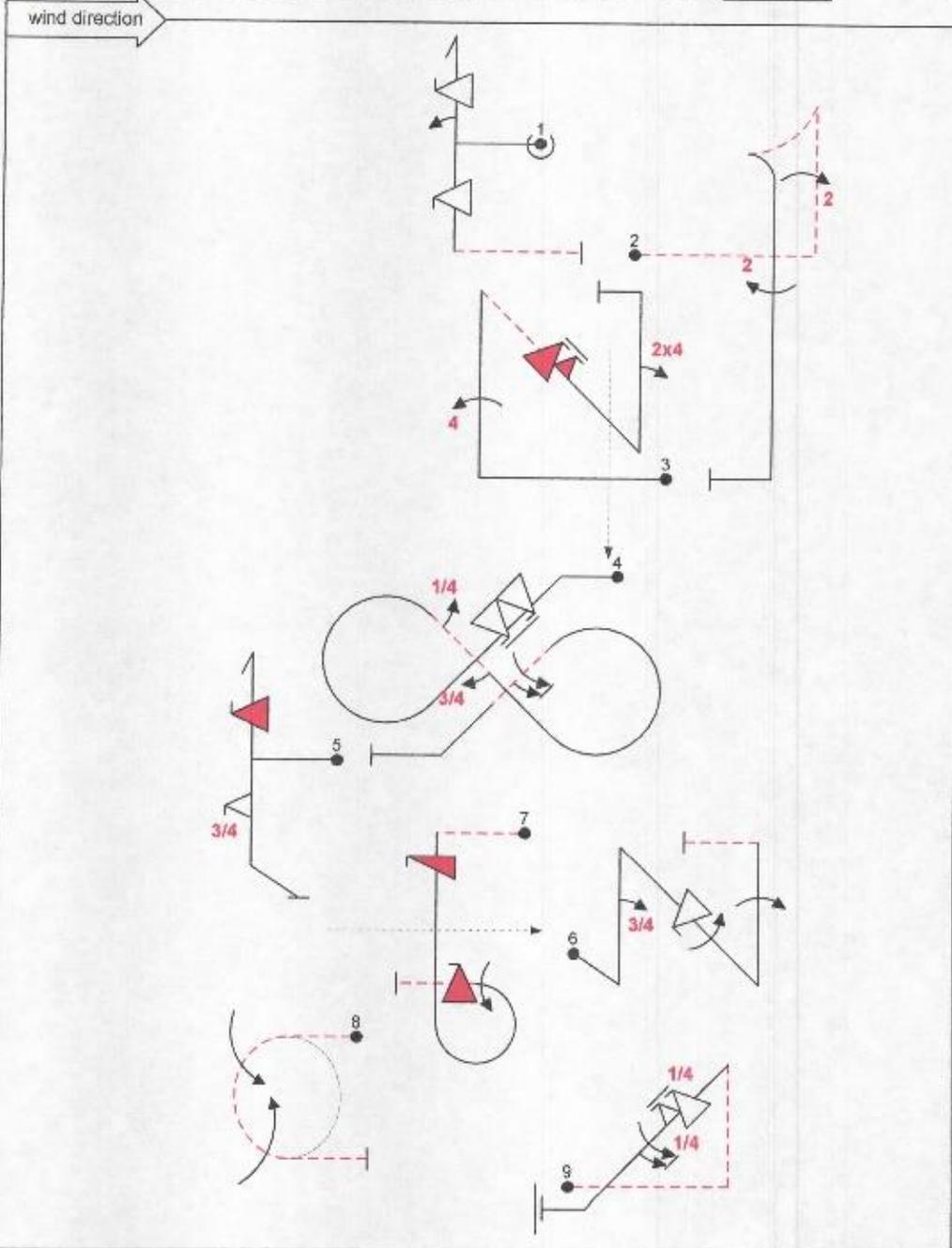


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<b>C</b>	Contest:	Category: <b>Unlimited</b>
Date:	Program: <b>Free</b>	Pilot's No. <input type="text"/>

*Ime Yankenbanter* Pilot:



Credited: Using Aweel 2.0 by software ACCAerosoft@rol.com

Ultimate Monoplaneski

A/C:

(signature/date)

FREE PROGRAM CHECK BY: