

WSMC High School Regional Competition
Seven Team League Scheduling
Team Problem
March 11, 2009

You have been put in charge of building a schedule of games for a league tournament with 7 teams. Your contract with the facilities require that the days be consecutive. Base your schedule on the following criteria:

- A. Every team plays every other team once.
- B. No team plays twice in one day.
- C. The minimum number of days is used **and** a maximum of two games are played on any one day. (The days must be consecutive days.)
- D. Teams play a minimum of back-to-back games (back-to-back games are defined as a team playing two days in a row) **and** no team should play three days in a row.
- E. Back-to-back games are as evenly distributed as possible.
- F. Display your league schedule in an easy to follow format that allows for quick determination of how well the criteria have been met.

Be sure to show all of your work. Organize and label the sections of your work including your data and diagrams.

Scoring Rubric Summarized

Solve Problems using – Reasoning – Number Sense

- A. **5 points** – Every team plays every other team once
- B. **4 points** – No team plays twice in one day
- C. **4 points** – Minimum number of days is used and a maximum of two games per day.
- D. **4 points** – Teams play a minimum number of back-to-back games and there is no team playing three days in a row.
- E. **9 points** – Back-to-back games are spread out as evenly as possible
- F. **3 points** – Present work in an organized, clear, and logical manner, label appropriately, and use diagrams.

A. Every team plays every other team once (5 points)

5 pt – no errors **or**
 2 pt – 1 error **or**
 1 pt – 2 errors

B. No team plays twice in one day (4 points)

4 pt – no errors **or**
 1 pt – one error

C. Minimum number of days is used (4 points)

4 pt – Uses 11 days **and** the maximum number of games played in a day is two **or**
 1 pt – Uses 12 days **and** the maximum number of games played in a day is two

D. Minimum number of back-to-back games (4 points)

5 pt – 8 back-to-back games (At the time of publishing, this option has not been discovered by the authors!) **or**
 4 pt – 9 back-to-back games **or**
 3 pt – 10 back-to-back games **or**
 2 pt – 11 back-to-back games **or**
 1 pt – 12 back-to-back games
 (A team scheduled to play three consecutive days shall be scored for three back-to-back games: the 1st and 2nd, the 2nd and 3rd, and the 1st and 3rd.)

E. Back to back games are evenly spread throughout (9 points)

2 pt – no team has more than 2 (0 pt for one or more exceptions) **and**
 2 pt – no team has less than one (0 pt for one or more exceptions) **and**
 3 pt – all teams play one back-to-back before any team plays a second (2 pt if one exception, 1 if two exception.) **and**
 2 pt – the team with the first back-to-back is the first to repeat and the second is the second to repeat (1 pt if the a repeat back-to-back is one of the first two)

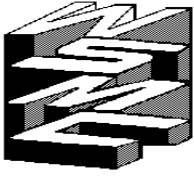
F. Overall (3 points)

Communication

1 pt – well organized and easy to follow **and**
 2 pt – used diagrams, labels, and/or good explanations to make clear the solutions

Total Points

29 points possible
 22 points is the benchmark for automatic qualification for state for Division I schools and 20 for Division II schools.



Team Problem Answer Sheet

Only this page will be evaluated. You may use front side only. You might want to draft your answer on scratch paper first.

School Name _____ Team Number _____

Names _____

Support all your work with clear and convincing information and calculations. Only answers on the front of this page will be scored.

Sample Solution

Day of the Tournament												Number of Back- to Back games
Teams	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9	Day10	Day11	
A	<i>B</i>	<i>G</i>		F		C		<i>D</i>	<i>E</i>			2
B	A		<i>D</i>	<i>G</i>		F		C		E		1
C	D		E		<i>G</i>	A		B			F	1
D	C		B		E		<i>F</i>	A			G	1
E		<i>F</i>	<i>C</i>		D		G		<i>A</i>	<i>B</i>		2
F		E		A		<i>B</i>	<i>D</i>		G		C	1
G		A		<i>B</i>	<i>C</i>		E		F		D	1

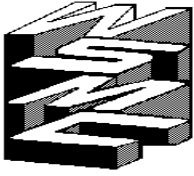
Bold and Italicized letters are the back-to-back games.

Junior Varsity Guide Sheet is only for those who are not competing for a spot at State. If you have received this **incorrectly**, immediately raise your hand, tell your proctor, and **don't read beyond this point!**

1. Give the team's simple names like A, B, C...
2. Number the days
3. Use a table to show who plays whom on which days
4. As you schedule teams/games watch for back-to-back games for a team.
5. DO NOT toss a schedule away before you have a better one.
6. Work with your team mates, make sure each member is checking for one or two of the criteria

Make sure you label your work and make it easy to follow.

Good Luck.



Team Problem Answer Sheet

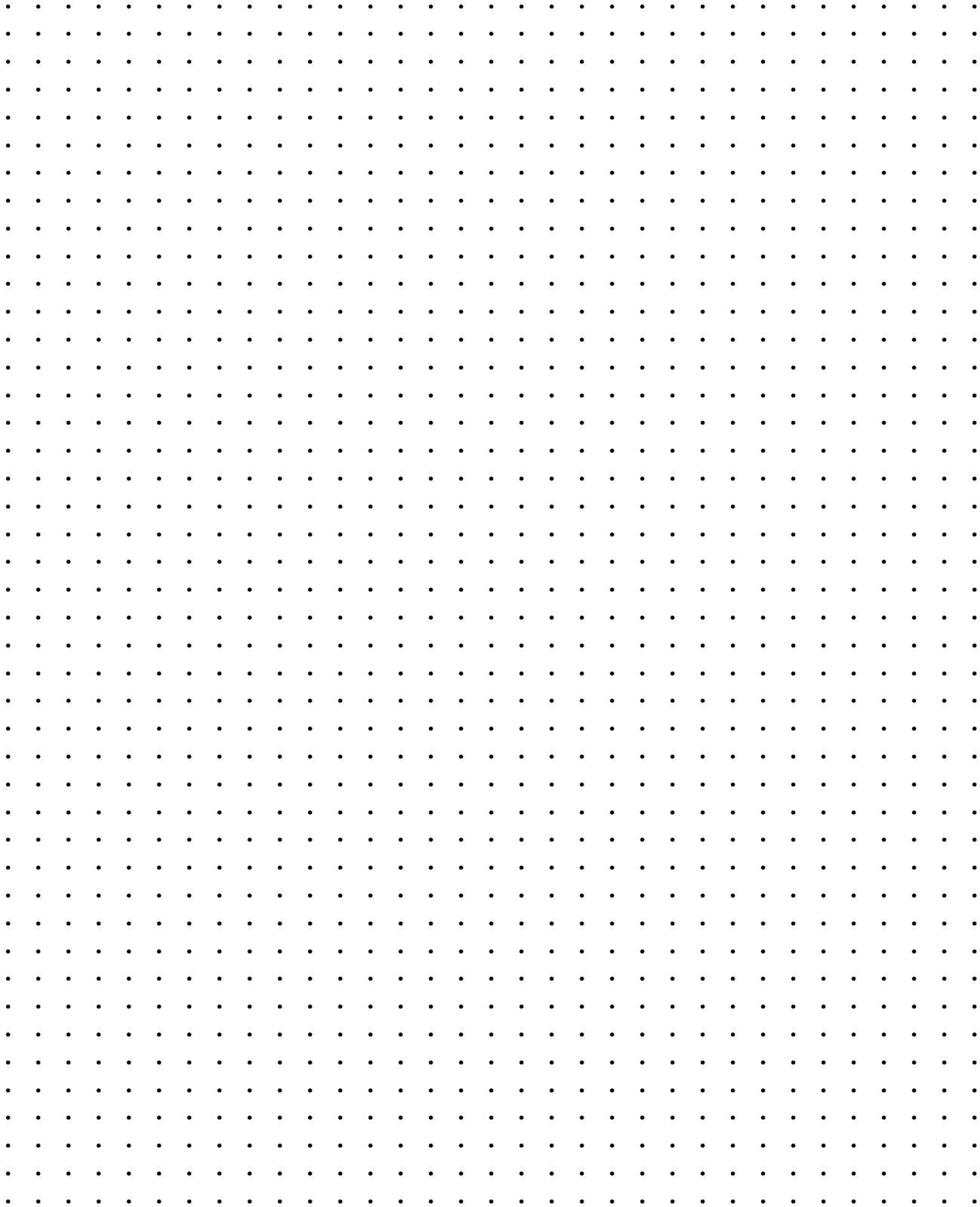
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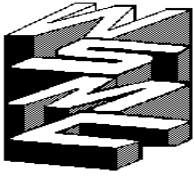
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Special answer sheet for Junior varsity teams.





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Names _____

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A large grid of 20 columns and 30 rows of small dots for writing answers.