

# Michigan League of Academic Games

## MICHIGAN LEAGUE OF ACADEMIC GAMES BASIC ON-SETS RULES 2011-2012

**BOS1** The official rules for Basic On-Sets in the manual which accompanied the game, will be used at the Minor, Elementary, and Middle levels.

**BOS2** Two or three person games will be played. The Goal setter for the first shake will be determined by rolling a number cube. The person with the highest number will set the first Goal. Then next Mover will be the person to the left of the Goal setter. Play will continue clockwise.

**BOS3** A shake will consist of 3 numeral cubes, 8 set color cubes, 3 blue cubes with V set on them, 4 red operation cubes, and 16 universe cards (with all combinations of R, B, G, Y on them and one blank card.

### Universe Cards

B	R	G	Y		
BR	BG	BY	RG	RY	GY
BRG	BRY	BGY	RGY	BRGY	blank
card					

**BOS4** In Basic On-Sets, the = and C signs are wild. The = sign is wild for the 6 set names (R, B, G, Y, V, ^) and the C is wild for the operations (', U,  , -). The solution writer must indicate in their solution what the = or C is wild for. The = or C must be interpreted as the same symbol throughout the solution.

**BOS5** A shake begins when the cubes are rolled or the universe cards are set. Once the cubes are rolled to form the Resources and the universe cards are set, no player shall alter or change the cubes or cards, nor obstruct any players' view of the cubes or cards. The cubes must be rolled and the universe set must be dealt in either order within the first minute of the 2 minutes for setting the Goal. On each shake, no less than 6 cards and no more than 12 cards may be dealt for the universe.

**BOS6** Time limits will be imposed. A one minute timer will be used. The time limits are as follows:  
Rolling the cubes, dealing the universe and setting a goal  
or declaring "no goal" (extremely rare)  
2 minutes

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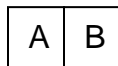
First player after goal setter	
1 minute	
All other turns	1
minute	
Deciding who to join	1
minute	
Writing a solution after a challenge or force out	
2 minutes	
Checking a solution	2
minutes	

A player being timed must be warned approximately 10 seconds before the timer runs out. If none of the players notices when the time ran out, the player has 10 seconds to make a move. If a player fails to move before his time has run out, he will take a 1 point penalty and have 1 minute to complete his task. If he is not finished at the end of the extra minute, he shall lose 1 more point and he will lose his turn. A 1 point penalty is given out only when a player doesn't move on time or wants an additional minute to complete writing a solution.

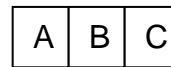
**BOS7** GOALS The following is a list of all possible legal Goals. Setting any other configuration of the numeral cubes is a P-Flub. In each Goal, an upside down cube signifies a negative of that number. A Goal that is less than zero or greater than the number of cards in the universe is a P-Flub Goal. Any unused numeral cubes should be placed in Forbidden when the Goal is set.



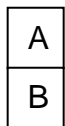
A



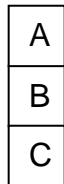
A + B



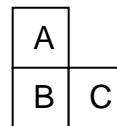
A + B + C



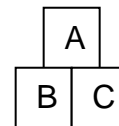
A X B



A X B X C



(A X B) + C



(B + C) X A

**BOS8** Once cubes have touched any area of the mat, they may not be moved from that area.

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**BOS9** In Basic On-Sets, a player may make a bonus move at any time whether or not they are in the lead. A bonus move is moving an extra cube in this order:

1. The word "bonus" must be said.
2. The extra cube must first be placed in Forbidden.
3. The regular move can then be made to Forbidden, Permitted or Required or the Goal (when setting the Goal).

**BOS10** CHALLENGING These calls are called challenges: A FLUB, P FLUB, CA FLUB, challenging a Force Out declaration, challenging a No Goal call. A flub ball (challenge block) will be placed equidistant from all players. To challenge, a player must pick up the ball. If he has not picked up the ball, he has not challenged. The challenger must immediately say why he has picked up the flub ball. The flub ball should not be picked up for a Force Out. However, if it is, then the players should follow through the Force Out procedure since no challenge was stated. Players may not keep a hand or finger on or near the block throughout the shake.

Players may say "Flub Ball Adjustment" or something similar such as "Flub Adjustment" and then move the Flub Ball to a spot that is equidistant from all players. The player's intent was to make picking up the flub ball easy to get to for all players. This is not a challenge because there was not intent to challenge.

**BOS11** FORCE OUT FORCE OUT is a move and is called when there is a one more cube solution with no avoid move. The mover moves the cube that causes the Force Out then the next mover calls Force Out. If there is no challenge to the Force Out move, then each player should try to write a solution. All players writing correct solutions within 2 minutes will score 8 points. Those players with no solution or an incorrect solution will score 6 points. A Force Out should not be called when there are two cubes in Resources that are needed in the Solution.

**BOS12** A Force Out is a move that can be challenged. The Challenger must specify Reason A or Reason B for challenging the Force Out declaration.

**REASON A** The Force Out declarer should have challenged A or CA (that is, a previous Mover made a Solution possible with one more cube when that Mover could have avoided doing so). The Challenger (and the Joiner who agrees with the

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Challenger) must write a Solution using at most one cube from those that were in Resources when the original A FLUB was committed and also must write an avoid move that could have been made instead of the original Flub.

**REASON B** A Solution cannot be written with only one more cube. In this case, the Challenger (and the Joiner who agrees with the Challenger) does nothing; the Force Out declarer (and the Joiner who agrees with the Force Out declarer) must write a Solution using at most one cube from Resources.

For both situations, Reason A and Reason B, the Force Out declaration must be challenged within the first minute of the 2 minutes allotted for writing Solutions after Force Out has been called. If a Challenge is issued within this time and there is third player, the Joiner has one minute to take a side on this Challenge. Then anyone writing a Solution has 1 additional minute to write their solutions. The scoring is the same for any other challenge as defined in BOS16.

**BOS13** SOLUTIONS On-Sets has a limited hierarchy of operations, as follows: In the absence of grouping symbols such as parentheses, the unary operation complement (  $\bar{\phantom{x}}$  ) takes priority over the binary operations union (  $\cup$  ), intersection (  $\cap$  ), and difference (  $-$  ). There is no hierarchy in the binary operations.

EXAMPLES: For  $R \cup G \bar{\phantom{x}}$  take  $G \bar{\phantom{x}}$  first then union it with  $R$

So  $R \cup G \bar{\phantom{x}} = G \bar{\phantom{x}} \cup R$  but  $R \cup G \neq (R \cup G) \bar{\phantom{x}}$

**BOS14** Once a player presents his solution to his opponents, he may not make any corrections or additions, even if his time is not expired. If a paper has been presented with more than one solution on it, the write has the right to indicate which solution is being submitted. The opponents must ask which solution should be checked.

**BOS15** AVOID MOVES When a challenger has called A FLUB or CA FLUB, he/she also has the burden of proving that there is an alternate move that:

- a) did not allow a solution to be built with only more cube from Resources

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- b) did not cause a P FLUB

On a CA FLUB, the avoid move and solution is written on the old A FLUB. With an A FLUB solution, there should be written along with the solution, an avoid move (alternate move). The solution and alternate move must be presented by the end of the 2 minutes allowed for writing them. If a correct avoid move is not presented with the solution, then the burden of proof is not sustained. Writing "call an A FLUB" on a CA FLUB is not an avoid move. An alternate move is naming a cube and which part of the mat it should be placed.

**BOS16** SCORING The challenge scoring of the Basic game is revised as follows: If there is a challenge, then:

- a) the joiner (J) must join the challenger (C) or the mover (M)
- b) If the player who J joins has the burden of proving the existence of a solution, the J must sustain the same burden of proof by writing a solution.
- c) If J is correct then J scores 8 if he has joined C and 10 if he has joined M
- d) C scores 10 if C is correct
- e) M scores 10 if M is correct
- f) If anyone is incorrect, he scores 6

**BOS17** TOURNAMENT SCORING Tournament rounds will be scored in the following ways for team points:

3 player games

First Place	6 points
Tie for First	5 points
Three way tie for first	4 points
Second place	4 points
Tie for second	3 points
Third place	2 points

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### 2 player games

First place                      6 points

Tie for first                    5 points

Second place                  4 points

**B0S18** No books, tables, calculators, or prepared notes may be used. Only pencils or pens and blank paper may be used. Preprinted blank charts for noting the universe may be used. The official format is shown on Appendix A4.