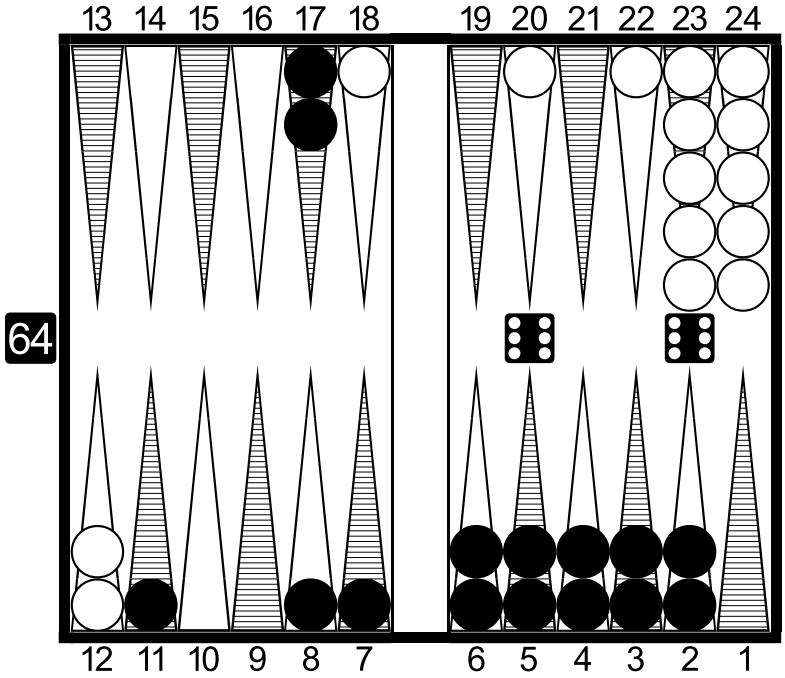
PROBLEM OF THE WEEK #4 – DECEMBER 29, 2020



○ is JackMac

score: 1
pip: 56

3 point match

pip: 100
score: 1

● is KellyRae

XGID=-EEA-A-Ab----Ba--aabbbbb--:0:0:-1:66:1:1:0:3:10

● to play 66

In this week's problem, I am playing Jack "JackMac" McCollough in a last chance round from our weekly "For the Glory" tournament circuit (December 21, 2020). While a 66 roll is often something that you like to see (unless you are on the bar), in this particular position, that roll presents a range of problems for me.

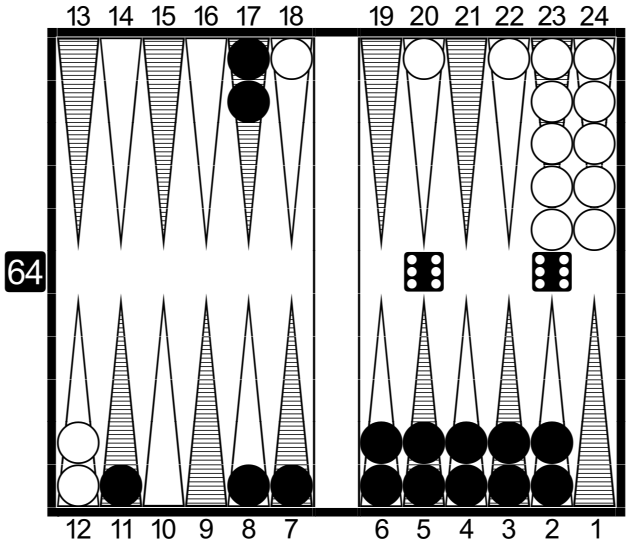
I would like to keep the 17-point anchor, but I quickly realize that, as a certain tournament director might helpfully proffer up, "the play of one of the sixes is ***forced***." Yes, indeed, I am forced to play one of the sixes by breaking my anchor on the 17-point, moving 17/11. As I ponder my play a bit, considering how to play the remaining three 6's, Jack offers some helpful encouragement through Backgammon Galaxy's "chat" feature: "You should make this a Problem of the Week." I acknowledge that this seems a good idea, although sadly this "encouragement" offers me no guidance as to how to deal with the predicament that I seem to have landed myself in.

So, loyal readers – what should I do here with my 66 roll?

Usual rules apply: consultation with electronic devices of any kind (including, in this case, assistance from any silicon-based life forms) is not permitted. Solutions will be circulated on Sunday late afternoon or evening (1/3).

SOLUTION

Extreme Gammon Rollout Results:



1.	Rollout[1]	17/5 11/5 7/1	eq: -0.458
	Player:	41.88% (G:2.53% B:0.05%)	Conf.: ± 0.001 (-0.459...-0.456) - [100.0%]
	Opponent:	58.12% (G:0.08% B:0.00%)	Duration: 5 minutes 09 seconds
2.	Rollout[1]	17/5 8/2 7/1	eq: -0.477 (-0.019)
	Player:	41.55% (G:2.35% B:0.05%)	Conf.: ± 0.002 (-0.478...-0.475) - [0.0%]
	Opponent:	58.45% (G:0.09% B:0.00%)	Duration: 5 minutes 05 seconds
3.	Rollout[1]	17/5 11/5 8/2	eq: -0.500 (-0.042)
	Player:	41.14% (G:2.20% B:0.05%)	Conf.: ± 0.001 (-0.501...-0.498) - [0.0%]
	Opponent:	58.86% (G:0.12% B:0.00%)	Duration: 4 minutes 38 seconds
4.	Rollout[1]	17/5(2)	eq: -1.000 (-0.542)
	Player:	23.72% (G:0.00% B:0.00%)	Conf.: ± 0.000 (-1.000...-1.000) - [0.0%]
	Opponent:	76.28% (G:0.00% B:0.00%)	Duration: 5 minutes 03 seconds

[1] 5184 Games rolled with Variance Reduction.
Moves: 4-ply, cube decisions: XG Roller
Search interval: Huge

www.eXtremeGammon.com Version: 2.19.211.pre-release, MET: Kazaross XG2

The first thing that must be considered is: should Black should run home with both checkers on the 17-point or should he keep one checker back. If he elects to run, the only reasonable option would be to play 17/5(2), since contact will have been broken completely, and Black should avoid needlessly moving checkers deep into his inner board, creating excess wastage for his bearoff. You always aim to bring your checkers onto your higher inner board points during the bearin so that your bearoff will start as soon as possible.

If Black does elect to make the running play, 17/5(2), note that he will be down 20 pips in the raw pip-count (trailing 76-56). Of course, the raw pip-count doesn't tell the whole story, since White currently has 10 checkers stacked on his ace-point and deuce-point; consequently, he will experience a good amount of wastage during his own bearoff, so Black realistically isn't trailing in the race by a full 20 pips.

So, how do you make sense of your racing potential in a situation such as this one? One way is to employ an "adjustment" to the raw pip-count which takes into account possible wastage which results from having excess checkers on lower inner-board points, as well as other distributional weaknesses in your and your opponent's position. There are several such count adjustment methods – a very popular method is the Keith Count, which

is also the approach that I use to make pip-count adjustment. A discussion of the Keith Count is included as an Addendum at the back of this solution for those interested in more detail and the particulars of how to use it.

For our problem, after applying a Keith Count adjustment to the raw pip-counts, you get the following "adjusted" pip-counts: White 70, Black 77. Since Black is not yet forced to break contact, this is actually too big a lead to concede to White in a straight racing position. As the rollout results show, after running home, Black only wins 24% of the time. In fact, if Black makes a run for home, White can double him out immediately on his next turn.[1]

Besides the racing situation, there are also two other factors that favor maintaining contact by leaving a blot on the 17-point.

- First, Black has a strong inner board, while White has a weak inner board, as well as some extra blots lying around. If Black hits a White checker, he will more or less have a winning position, with White on the bar facing Black's strong five-point inner board. By contrast, if White hits a Black checker, he will be subject to several immediate return shots (possibly including a direct shot from the bar), and he will still need to get his checkers home safely and off. Essentially, Black has much more "life after death," than White does in the scenario where contact leads to one of the players hitting a shot.
- Second, White doesn't have much time to clear his midpoint, and that will not be easy to do safely with Black having a checker on his 8-point. Almost all of his checkers can no longer move (or have very limited mobility, being able to only move 1 or 2 pips forward), so he doesn't have that many checkers that he can play with; unless he is able to roll a 5 that hits Black's blot, he'll be forced off the midpoint in short order, leaving Black a direct shot (unless White rolls a lucky set of doubles). Also, as noted above, even if he rolls a hitting 5, he will most likely have to leave Black some return shots.

Given all of these factors, it is clear that Black must leave his remaining checker on the 17-point – as the Extreme Gammon rollout confirms, running home is a larger blunder.

Having decided that he must leave a blot on the 17-point, Black's next 6 is again ***forced*** – he must play 11/5 with one of his three remaining 6's to be played, leaving himself with checkers on the 11-point, 8-point and bar-point with another two 6's to play. I made a mistake here, playing 11/5 and 8/2 with the remaining two 6's. I should have played 7/1 with one of them – this would have put me in a position to close my board by covering the ace-point, and it also fills the final gap in my inner board which will be useful when it comes time to bear off checkers (note that by failing to play 7/1, I am forced to play 8/2, which makes for a weaker bearoff distribution).

After playing 17/11, 11/5 and 7/1 for the first three sixes, it is slightly better to play 11/5 than 8/2 with the last six, since the resultant distribution is better (again, better to bring in to your higher points for racing purposes).

Best Play: 17/5 11/5 7/1.

EPILOGUE

While I misplayed this roll, I did get the main idea of the position right, and maintained some contact. The contact was broken over the next 2 rolls without me getting hit or Jack being forced to leave a shot. Jack wound up in a favorable racing position and found an opportunity to make a proper cube turn, putting the entire match on the line in this game. Alas, the dice Gods were not smiling upon him that evening. A timely double-sixes roll radically altered the landscape in my favor and I was able to prevail (with great luck) and win the game and the match.

[1] For cube play, it turns out that the take point when both players are two points away from winning the match is 32%, which is on the high side. If this were a money game, Black would have a close take in this spot; in any event, this does not change the proper play of the 66 roll.

Addendum: The Keith Count

The Keith Count is a pip-count adjustment methodology developed by Tom Keith. See, *e.g.*, **https://bkgm.com/gloss/lookup.cgi?keith+count**

Adjustments to the Pip-Count

To utilize the Keith Count as a pip-count adjustment methodology, for each player, you make the following adjustments:

- For each checker more than one on the ace-point, increase the pip-count by 2.
- For each checker more than one on the deuce-point, increase the pip-count by 1.
- For each checker more than three on the three-point, increase the pip-count by 1.
- If you don't have any checkers on the 4-point, increase the pip-count by 1.
- If you don't have any checkers on the 5-point, increase the pip-count by 1.
- If you don't have any checkers on the 6-point, increase the pip-count by 1.

For our problem position, the pip-count adjustments are calculated as follows:

- White's pip-count is increased by 14 – (i) 2 x 4 (for the four extra checkers on the ace-point) + (ii) 1 x 4 (for the four extra checkers on the deuce-point) + (iii) 2 (for the empty 4-point and 6-point).
- Black's pip-count is increased by 1 (for the extra checker that he has on his deuce-point).
- After taking into account these adjustments, the new pip-counts are: White 70, Black 77.

Doubling Rules When Using the Keith Count

After adjusting the pip-counts for each player using the above adjustments, you further adjust the pip-count of the player on roll by increasing it by one-seventh (rounding down). For money game backgammon play (as well as many scores in match-play, particularly in the early stages of a match), Double/Take decisions are then made as follows:

- Double/No Double Decision:
  - If the player on roll has an adjusted pip-count that exceeds his opponent's adjusted pip-count by 5 pips or more, he does not have a proper double.
  - If the player on roll has an adjusted pip-count that exceeds his opponent's adjusted pip-count by no more than 4, he has a proper initial double.
  - If the player on roll has an adjusted pip-count that exceeds his opponent's adjusted pip-count by no more than 3, he has a proper redouble.
  - Obviously, if the player on roll has an adjusted pip-count that is lower than his opponent's adjusted pip-count, he has a proper double or redouble.
- Take/Pass Decision:
  - For the player who is getting doubled, he should pass if his opponent has an adjusted pip-count that is more than 1 pip in excess of his own adjusted pip-count; otherwise, he should take.

Other Sources Regarding the Keith Count and Pip-Count Adjustments

Here is a link showing a short USBGF video from Phil Simborg which describes and shows how to make a Keith Count pip-count adjustment (and includes discussion of proper cube strategy in money game backgammon).

https://www.youtube.com/watch?v=fbYlKGzKsgo

Here is a good article by Tom Keith which gives some background on some of the theory regarding wastage in bear-offs, and includes a discussion and comparison of several alternative pip-count adjustment methodologies.

https://bkgm.com/articles/CubeHandlingInRaces/

Walter Trice, in his book ***Backgammon Bootcamp***, also has several chapters which do a fairly good job discussing the handling of the doubling cube in non-contact races. Beyond this topic, it is also a comprehensive reference source on the game of backgammon more generally, covering a broad range of important topics.