Bagai's Replies:
Mastering the Second Roll

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Introduction

At some point, you'll want to learn the opening replies. After all, each and every game will have a second roll so why not get it right? Not only that, learning the replies helps you with many similar decisions later in the opening phase. The problem is that there are some 630 of them (depending on the set of opening plays you choose to prepare against) and many are not obvious. How to come to terms with that much data? How to memorize it for use over the board?

This paper presents a complete system for understanding and memorizing all the money-game opening replies. Understanding comes in the form of a set of rules based on the key features of each position. Memorization is best achieved through the backgammon flashcard software *FlashBack* (available for Android and iOS devices). Of course, you can learn the openings through other methods. But have you?

I begin with a brief review of prior writing on the replies, then describe the rules (giving lots of examples), and conclude by showing how *FlashBack* is the perfect tool to help you memorize all the rules and all the positions.

Prior Writing

Joe Dwek published the first list of opening replies in his *Backgammon For Profit* (1976). He offered no analysis with the moves, and clearly did not consider his list definitive since he also included a survey of six other top players' replies to an opening 42.

Some twenty years later, **Harald Johanni** published the first set of rollout results (JellyFish 3.0) for the replies in his bilingual *Backgammon Magazin* (serialized 1997 – 1999). Oddly, he choose to roll out the replies at the somewhat esoteric score of 1-away 2-away Post-Crawford, which often, but not always, transposes to Double Match Point. Again, no analysis was provided.

Bill Robertie published his take on the (money) replies at roughly the same time in Inside Backgammon (1998). He discussed all the non-trivial decisions and noted when Jellyfish (level 7 analysis) disagreed with his choice, nicely illustrating how some felt about bots at that time. Robertie also provided ten general principles ("If you can hit an enemy blot on his side of the board, do it,") which are mostly accurate by today's standards.

Dwek, Johanni, and Robertie organized their analyses by opening roll: they started with an opening 21-slot (13/11 6/5) and presented the twenty-one possible replies to that opening. (Johanni started with an opening 61, but the idea is the same.) Then on to the next opening roll and all of its replies, etc. **Nack Ballard** and **Paul Weaver** went the opposite route in their *Backgammon Openings: Book A* (2007). They looked at how to play a 31 in reply to each opening roll (and also in many third-roll positions). Also in contrast to Robertie, they never considered disagreeing with their Snowie-4 rollouts, but rather sought out the wisdom contained within the rollouts. Their analysis is excellent but unfortunately for backgammon their series ended with Book A.

Unexpectedly, it turned out to be a 2010 Gammon Village article by **Stick**: *Rules Of Opening Play,* that was the most helpful to me. Stick's rules were much more specific than Robertie's general principles: "When your opponent splits with an opening 6x (62, 63, 64) and you reply with a hitting 1x (21, 41, 51) you should play the other number (the non-ace) down from the midpoint." Aha. This was a different way of grouping rolls: not by opening, not by reply, but by positional theme. With one idea, Stick covered nine positions. Nice! His article has ten rules: eight on opening replies, one on third-roll positions, and one concerning early cubes. I found the eight opening reply rules tremendously helpful. But I wondered just how many positons did they cover? And what about the rest?

Working with a spreadsheet of all the replies (you can find the data on Stick's site or on the eXtreme Gammon site), I found that a liberal interpretation of Stick's rules covers a total of ninety-five replies out of a possible 630, or just about 15%. Now it's true that many of the remaining cases are trivial and wouldn't warrant rules in a paper like Stick's. (Rule 11: Make your five point with 31.) Nevertheless, it seemed there was some work waiting to be done.

About The Rules

Inspired by Stick's article, I decided to create a set of rules to cover all 630 cases.

More specifically, I decided to create a *useful* set of rules to cover all 630 cases. There are many less-useful sets of rules, such as the set of 630 rules that each cover only one case. That set is entirely accurate, but doesn't much help for understanding or memorization. Perhaps I could do better.

Preliminaries

There are some technicalities to cover before getting to the rules:

Nactation This system employs some basic Nactation: D, P, R, $, S, U, Z

- D = Down: Bring both checkers down from the Midpoint. 32D = 13/10 13/11.
- P = Point: Make a point. 31P = 8/5 6/5.
- R= Run: Play the full roll with a back checker. 63R = 24/15.
- $ = Slot: Start an inner point with one checker, bring the other checker down. 21$ = 13/11 6/5.
- S = Split: Play the larger number from the rear and the smaller from the Mid. 43S = 24/20 13/10.
- U = Up: Move each of the back checkers. 43U = 24/20 24/21.
- Z = Reverse Split: Play the smaller number from the rear and the larger from the Mid. 43Z = 24/21 13/9.

Technically, 13/8 24/22 would be called 52Z since the smaller number is played from the rear. But everyone calls it 52S with no ambiguity since you can't play the larger number with the back checker. This applies to all 5-splits and all Ace-splits (where you can't play the smaller number from the midpoint).

I chose not to use Nactation for doubles because the terminology (Both, Each, Attack, Cross, Outer, Near) has not entered the common lingo of backgammon players. Instead I use traditional notation: 8/7(2) 6/5(2).

Substitutions and Exceptions I borrowed another idea from Stick: Sometimes you don't need to find the absolute best play. As he wrote about his first rule, " . . . the only possible exceptions will cost you next to nothing in equity if you follow the rule blindly." I agree that an easy-to-use rule may be worth the sacrifice of a little equity, but I want to quantify just how much equity qualifies as "next to nothing." Ballard and Weaver called plays "tied" if they were within .01 of the best play. Following their lead, I call plays within .01 of the best play **substitutions**. Plays that are wrong by more than .01 are called **exceptions**. I strove for rules that minimized exceptions, without worrying much about substitutions.

Set Of Openings There are 21 possible replies to each opening roll: the six Doubles and the fifteen Non-Doubles. But how many opening rolls are there? Not just fifteen, since each can be played in multiple ways. Judgment is involved. We must surely include both 21$ and 21S, but there is little reason to include 31U since no one ever plays it. This system covers thirty openings: (21$, 21S, 31P, 41$, 41S, 51$, 51S, 61P, 32D, 32S, 32Z, 42P, 52D, 52S, 62$, 62R, 62S, 43D, 43S, 43U, 43Z, 53P, 63R, 63S, 54D, 54S, 64P, 64R, 64S, 65R.) Twenty-one replies times thirty openings = 630 cases in all. If someone hits you with an opening oddity like 63Z, you'll likely come up with a reasonable reply based on the cases that are covered.

The Data All Opening Reply data courtesy of eXtreme Gammon Opening Book (v 3.70), which in turn is a collection of high-quality rollouts posted to bgonline.org. Thanks to all contributors, especially Ken Bame, Steven Carey, Xavier Dufaure de Citres, Igor Erovenko, Neil Kazaross, Alexandre Le Siege, Mike Mannon, Dmitriy Obukhov, David Rockwell, Miran Tuhtan, and Christopher Yep.

Organization

One of the first things to notice upon sifting through the data is that the fifteen Non-Double replies are quite different from the six Doubles. For instance, a Non-Double reply may present a choice between hitting and pointing, whereas a Double reply may ask which point to make *along with* hitting. I found it hard to come up with even a single rule that covered both domains, so I stopped trying: Non-Doubles and Doubles are considered separately. Each has six main rules, along with many sub-rules.

Non-Doubles This is the same set of fifteen rolls that confront you on the opening shake. They divide into four mutually exclusive groups:

Naturals:	31, 42, 53, 61, 65	
Ace-X:	21, 41, 51	Slot or Split?
Six-X:	62, 63, 64	Run or Split? (Or point?)
Others:	32, 43, 52, 54	Down or Split?

The Naturals point to a clear play, at least on the opening roll. The other groups each pose a question. These questions apply equally well to the first and second roll, and it's worth considering why the answers might differ:

One reason is that the risk-to-reward ratio may change depending on the opening roll. For example, while slotting is the best play for an opening 21, it's too risky in reply to an opening 41 split (41S) since there the slot would be exposed to a double shot. So rules for opening replies are often based on the opening play, such as "Slot aces after Opener has slot or played down, otherwise split."

Another reason is that occasionally the best opening play is blocked. You can't split a 41 after an opening 64P since the 23 point is occupied. So rules for opening replies often give alternatives when default plays are illegal, such as "Slot aces if splitting is blocked by an opening 64P."

The final reason is a big one. Sometimes the reply is different because there are blots to be hit. Hitting is usually a great idea, but not all blots are created equal and occasionally the alternative to hitting is a great play itself. How to prioritize? Which goals are trumped by hitting, and by what *kind* of hitting? Even players who know the openings pretty well may not be able to answer this question in the abstract. Knowing each data point doesn't guarantee awareness of patterns within the data – if such patterns even exist.

I certainly didn't know if any such patterns existed when I began this study, and I was also pretty fuzzy on a number of the data points. So imagine my surprise upon discovering this question has a clear answer, one that I had never before seen in print. If I have missed an earlier formulation please let me know and I'll be happy to cite it. But until such time, I name this particular piece of backgammon wisdom . . .

Bagai's Replies Surprise:

> For non-doubles replies, hitting any blot outside your inner board takes priority over anything else. Hitting loose on your 5 and 4 points takes priority over everything remaining **except** for playing your Naturals.

Or, phrased as a set of prioritized rules:

1. Hit any blot outside your inner board.
2. Play your Naturals.
3. Hit loose on your 5 and 4 points.

4. Rule for Ace-X,
5. Rule for Six-X   (These three are mutually exclusive, so priority is irrelevant.)
6. Rule for Others

These are the six main rules for Non-Doubles Replies. There are two groups of exceptions to this ordering that are covered as sub-rules. (Can you think of them? *Forgo hitting on your bar to make your 5 point, and forgo making your 3 point in order to hit loose on your 5 point*.) These sub-rules will be covered in detail below. That there are only two of them demonstrates that this prioritization is best by far for minimizing exceptions. It's also a great way to introduce the replies to a beginner.

Doubles Since there are fewer Doubles to cover, their organization is simpler: one rule per Double. Each rule describes the default way to play the Double, along with how that play changes depending on the opening roll.

Sub-Rules As mentioned above, the first Non-Double rule is "Hit any blot outside your home board." Notice, however, that this rule may not specify how to play the full roll. Consider 62S 41. The ace is 8/7*, but what about the 4? We need a sub-rule to specify.

In this case the sub-rule is: "Along with a direct hit from the 24 or 8 points, play the other checker from the Mid. Along with a direct hit from the Mid, play the other checker from the 24 point." Note how this sub-rule encompasses Stick's rule quoted above. Many of Stick's rules found their way into this system.

Most sub-rules are clarifications like the one above. But some sub-rules are groups of exceptions. For example, another sub-rule is "Forgo hitting on your Bar to make your 5 point. (62S, 63S, 64S) 31: 8/5 6/5." I could have just added those three positions to the list of exceptions, but whenever a set of exceptions followed a clear pattern I preferred to create a sub-rule.

If you already know your openings you may have spotted that hitting with 8/7* 24/21 (and not 8/7* 13/10 as the prior sub-rule would indicate) is actually slightly better than pointing in reply to 64S. True enough but the difference is well under .01, making the play a substitution. I judged that a sub-rule with one substitution was preferable to three exceptions. There were many such judgment calls, which I tried to resolve by minimizing exceptions without worrying over substitutions.

The final tally: 12 rules (26 sub-rules), 568 best plays, 36 substitutions, and only 26 exceptions.

Learn the twelve rules and you'll have a good overview of opening replies. Learn the twenty-six sub-rules and you'll make far fewer mistakes than the average open-level player. Memorize the twenty-six exceptions, and you'll make no errors greater than .01. It's not that hard to do. That's the promise of this system.

The Rules

All twelve rules and twenty-six sub-rules are defined here, with many supporting examples. Summary tables are provided in the Appendix for easy reference. Covering the twenty-six exceptions is beyond the scope of this paper, but all are listed and discussed inside *FlashBack*. More on *FlashBack* at the end of this paper.

Non-Doubles

**1. Hit Outside**: **Hit any blot outside your home board.**

This rule takes priority over all else. There are thirty-four cases where this rule determines the entire play, such as Position 1 (43D 54). There's only one way to hit: 24/15*. There are no exceptions or substitutions to this rule. However, there are occasions where you have a choice of blot to hit. The first sub-rule clarifies those cases:

1A. **Hit in the outfield rather than on your Bar.** 62S 64; 63S 63; 64S 62.

These hits gain more in the race and expose you to fewer return shots. See Position 2 (63S 63).
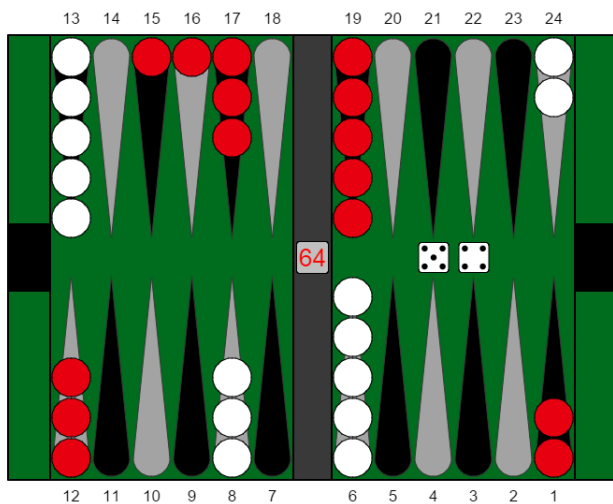
Position 1. 43D 54: 24/15*
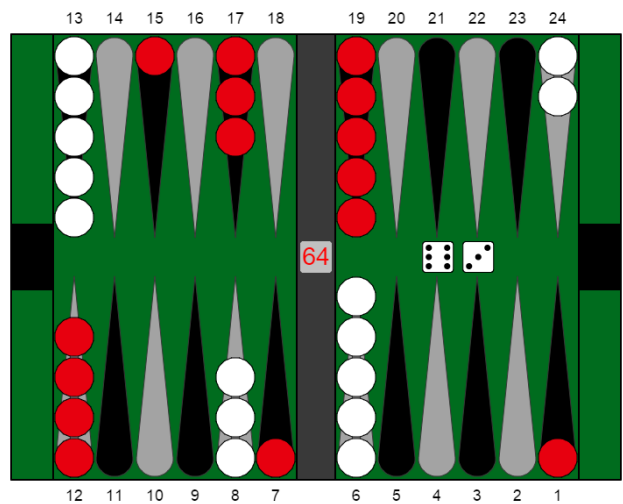
Position 2. 63S 63: 24/15*

1B. **Along with a direct hit from the 24 or 8 points, play the other checker from the Mid. Along with a direct hit from the Mid, play the other checker from the 24 point.**

This covers what to do with the other checker after a direct hit. The strategic concept is diversification – with Opener in the air you want to cover all quadrants. If you've hit from the rear, bring a checker down. If you've played off the mid, split from the rear. On the tactical side, after 8/7* your 8 point is stripped which means that subsequent hits or covers might require breaking it. You don't want that, so bring a checker down from the mid to assist. See Position 3 (63S 21).

Position 3. 63S 21: 13/11 8/7*
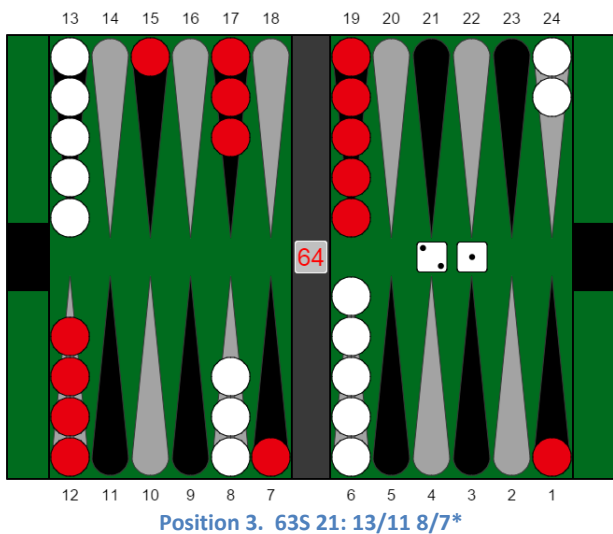
Rule 1B covers forty-six cases plus two substitutions and one exception. Position 4 (64S 41) shows an example of a substitution. The rule would suggest 8/7* followed by 13/9. In fact, the best play is 24/20 8/7*, but 13/9 is only .0057 behind, not enough to worry about. (Of course if you want to learn all the correct replies, no one is stopping you. All the data are available within *FlashBack*.)

The sole exception to Rule 1B is shown in Position 5 (41$ 43). The rule would suggest 24/20* followed by 13/10, but the best play is the unusual 24/20* 24/21. This time the difference is significant: .018. You don't want to give up that much equity (remember, our cut off is .01). So 41$ 43 goes into our list of exceptions, for subsequent memorization. We'll look at how to use *FlashBack* to memorize the exceptions in the last section of this paper.

Position 4. 64S 41: 24/20 8/7*

Position 5. 41$ 43: 24/20* 24/21
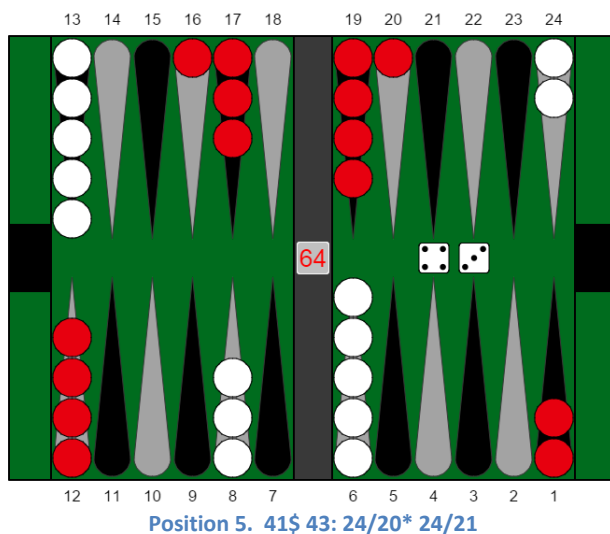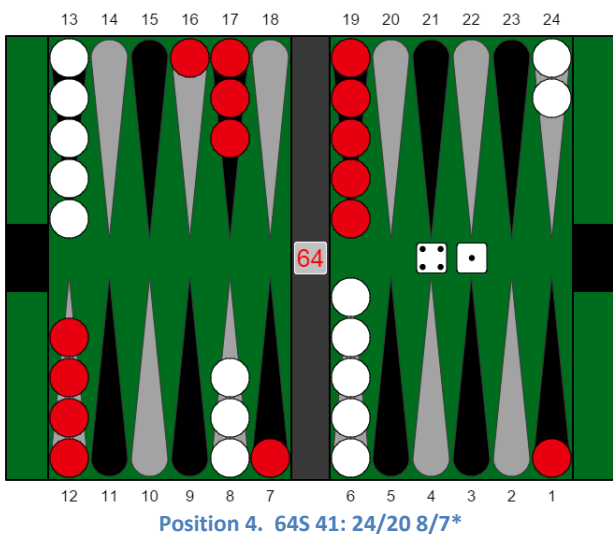
Rule 1B also has two sub-rules of its own, each covering a set of well-known special cases:

> 1Bi. **When hitting with 24/20*, play your remaining 6 by continuing to the 14 point.** (21$, 41$, 51$, 62$) 64: 24/20*/14
>
> 1Bii. **After Opener splits with 6x, play your 65 by hitting on your Bar and Ace points.** (62S, 63S, 64S) 65: 13/7* 6/1*

After hitting on the 20 point, play your remaining 6 with the same checker rather than expose a direct shot on your Bar, as in Position 6 (51$ 64). And, after hitting on your Bar with 13/7*, play your remaining 5 by attacking on your ace point, as in Position 7 (62S 65). Avoid the common overplay of hitting twice with 51 in reply to 6-X.
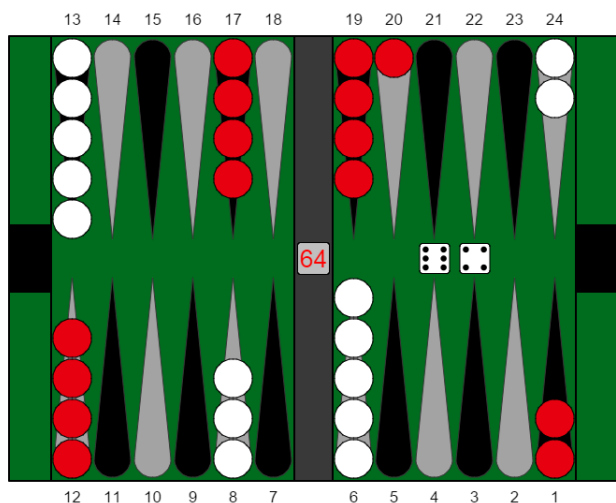
Position 6. 51$ 64: 24/20*/14
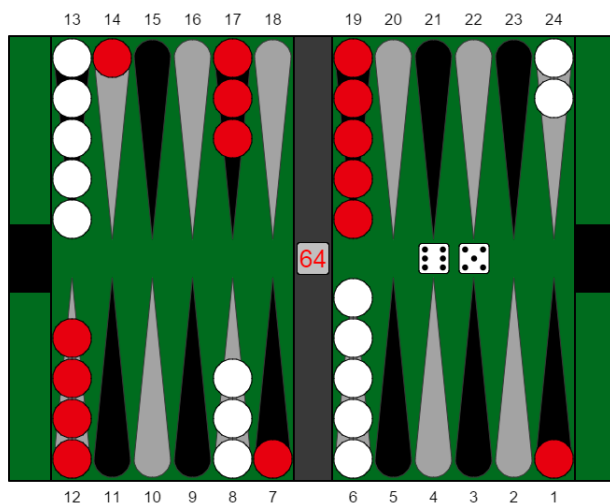
Position 7. 62S 65: 13/7* 6/1*
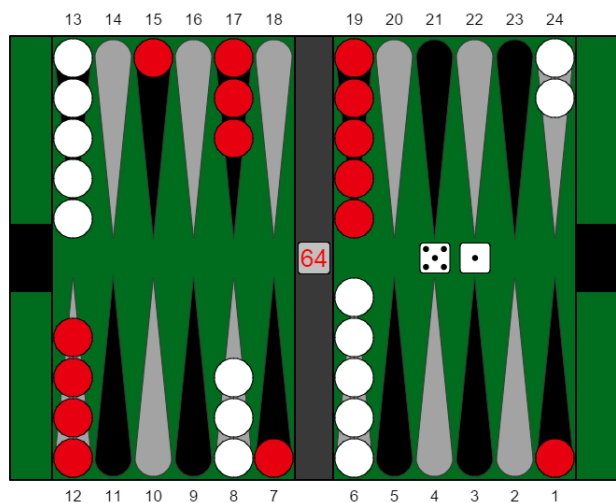
Position 8. 63S 51: 13/7*

That play can be correct at Gammon Go, but never for money. Stripping the 8 point is too much of a liability. Instead, just follow rule 1B: Along with a direct hit from the 8 point, play the other checker from the Mid, as in Position 8 (63S 51).

1C. **Forgo hitting on your Bar to make your 5 point.** (62S, 63S, 64S) 31: 8/5 6/5
The five point is the five point.

2. Naturals: **31, 42, 53, 61, 65.** (If blocked: 61P 65: 13/7 13/8.)

Make these strong plays when you can (unless you can hit outside, as described above). The only one that can be blocked on the second roll is 61P 65, where starting a good point with 13/7 13/8 is worth the risk of a few extra shots over 13/2. This rule covers 114 cases plus one substitution and one exception. The lone exception occurs when Opener plays the rare 43U and you roll a 65 (Position 9). 24/18 13/8 is .02 better than the normal 24/13, giving you more ammunition up front for a subsequent attack. (Since the focus of this section is to introduce the rules of the system, this will be the last exception to be covered explicitly. We'll look at how to use *FlashBack* to memorize the exceptions in the last section of this paper.)

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2A. **Forgo making your 3 point in order to hit loose on your 5 point.** (43S, 43U, 54S) 53: 13/5*

These are the only positions that forgo a Natural (other than hitting outside as in rule 1): Better to fight for your 5 point than make the weaker 3 point. See Position 10 (43S 53).
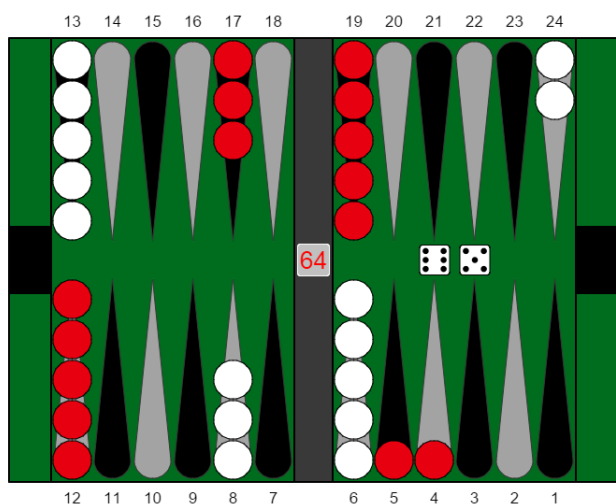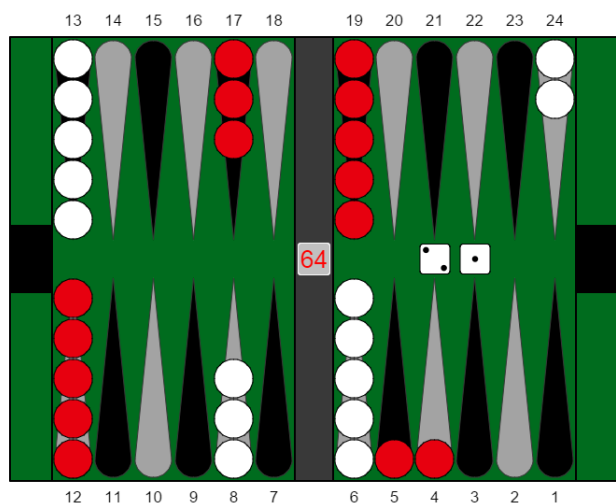

Position 9. 43U 65: 24/18 13/8
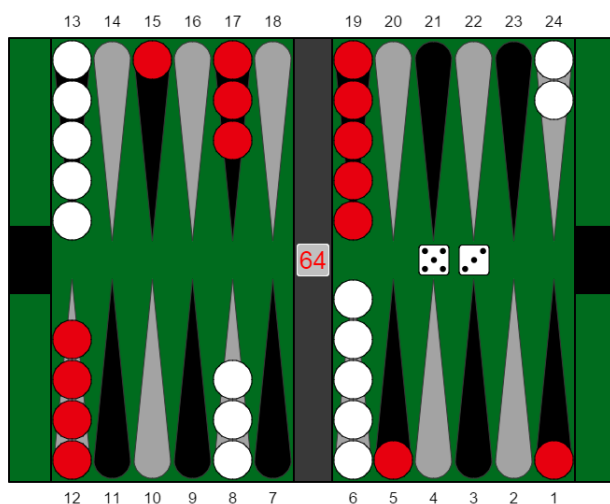
Position 10. 43S 53: 13/5*

3. Hit Inside: Hit loose on your 5 and 4 points.

These points are too important not to fight for.

3A. **With your other checker: Hit again on your 5 and 4 points (but do not break your 8 point), play from your Mid, or from your 24 point.**

Position 11. 43U 21: 6/4* 6/5*

This describes what to do with your other checker: Hit again on 5 or 4 points if possible (without breaking your 8 point), play from the Mid, or play from the 24 point – in that order. Hitting again can only happen after 43U, as shown in Position 11 (43U 21). In all other cases you'll want to play the other checker down, such as in Position 12 (54S 41). If your other number is a blocked ace, play it from the 24 as in Position 13 (32S 21).
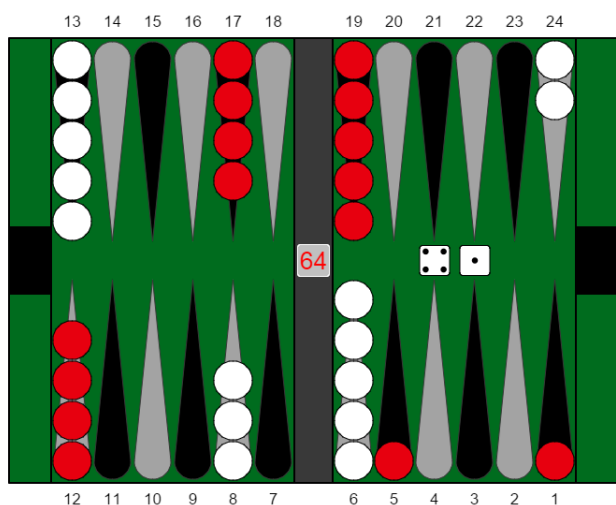
Position 12. 54S 41: 13/9 6/5*
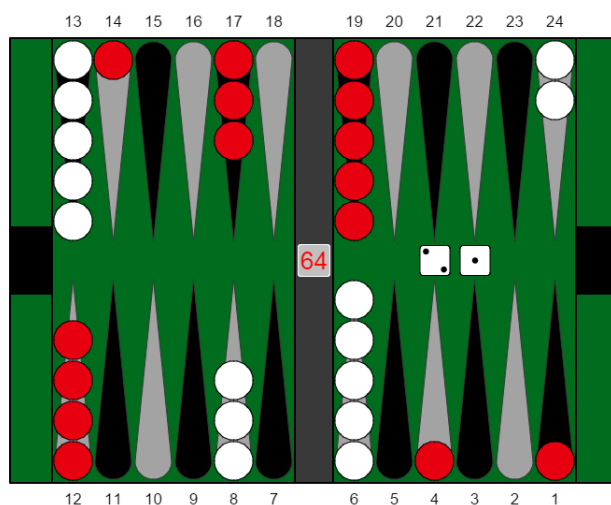
Position 13. 32S 21: 24/23 6/4*
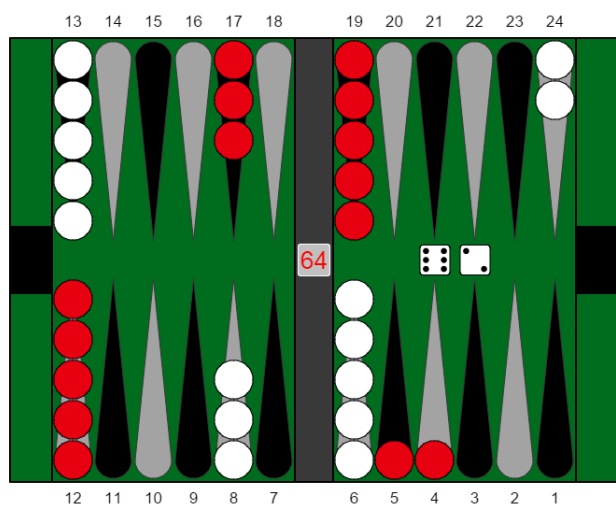
Position 14. 43U 62: 13/5*

3B. **After Opener plays 43U, hit from your Mid rather than expose additional blots**. 43U (62, 63): 13/x*

This covers two particular cases where instead of hitting and then playing down, you can hit the other checker from the Mid exposing fewer blots. See Position 14 (43U 62), where 13/5* is obviously better than 13/7 6/4*, which rule 3A would suggest.

3C. **Forgo hitting on your 4 point with 64.** (43U, 43Z) 64: Covered under 64 rule.

Never play 8/4* as part of a 64. How do you play your 64 rolls? That's covered two rules down.

4. Ace-X: **Slot aces (21, 41, 51) after Opener slots or plays down, otherwise split.** (Slot if ace-split is blocked by 64P.)

This should make sense: you want to slot aces with 6/5, but not after Opener has split (leaving a double direct), or after Opener has made a point (increasing the cost of being hit). So you should slot in Position 15 (32D 51), but not in Position 16 (32S 51) or Position 17 (53P 51). (After Opener runs, splitting and slotting are often close, with a few cases going each way. Splitting as a rule against an opening run minimizes substitutions and exceptions.)
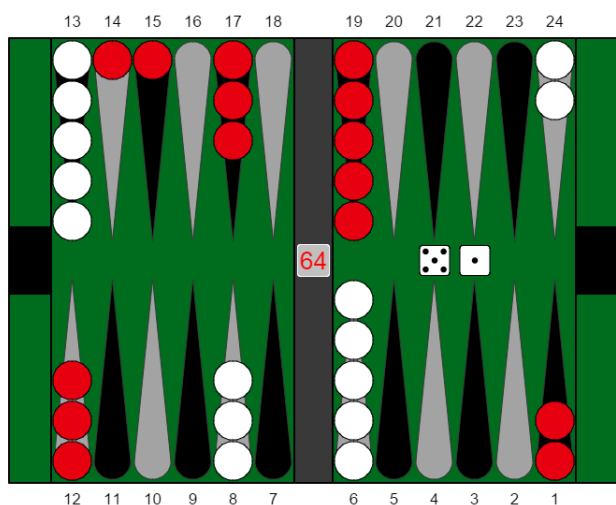
Position 15. 32D 51: 13/8 6/5
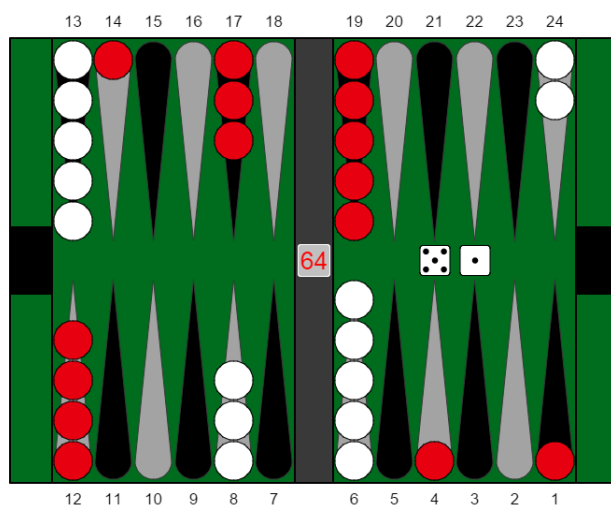
Position 16. 32S 51: 24/23 13/8

4A. **Hit twice inside with the same checker only with 41 after an ace-split from Opener.** (21S, 41S, 51S) 41: 6/2*/1*

The only third option after splitting or slotting: Hit twice inside with the same checker after Opener splits with an ace, as in Position 18 (21S 41). Note that this is the *only* occasion to hit twice inside with the same checker.
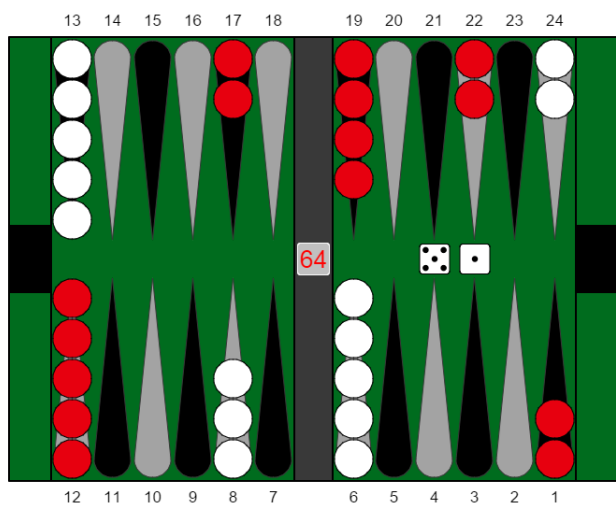

Position 17. 53P 51: 24/23 13/8
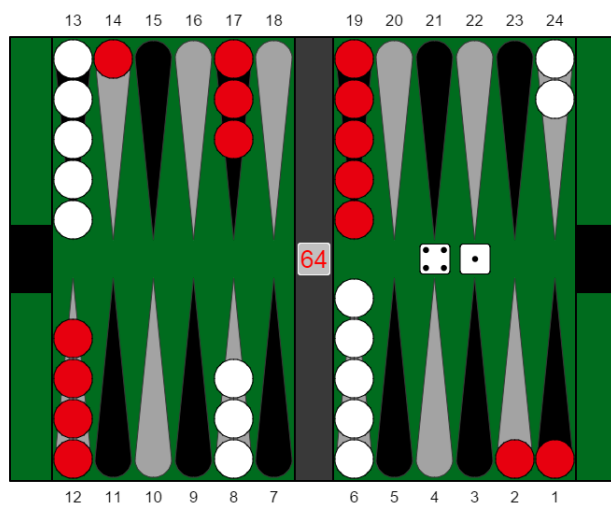
Position 18. 21S 41: 6/2*/1*

4B. **Treat Opener's 21$ as a virtual point; split against it.** 21$ (21, 51): 13/x 24/23.

This covers a set of two special cases: Opener slots with 21 and you fail to hit (21, 51). Since the slot is so likely to be covered, and since the slotted point is so strong, you should just consider the point as made and split against it.

4C. **Avoid direct shots in your outfield – play from the rear.** (52S, 32Z) 41: 24/20 24/23; 62R 21: 24/21
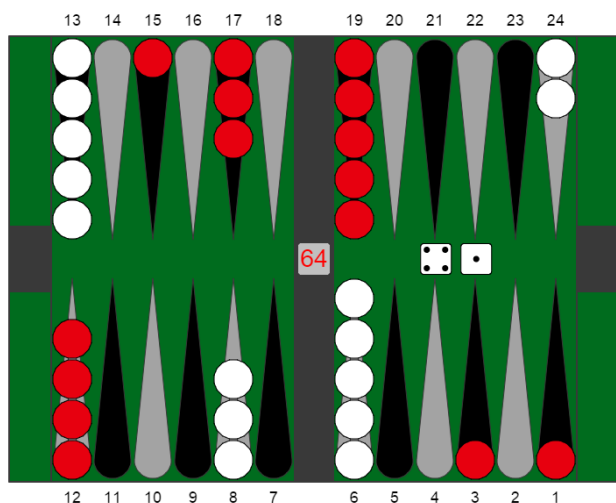
Position 19. 32Z 41: 24/20 24/23

This covers a set of three special cases: Opener splits or runs such that your natural play would leave a direct shot in your outfield. Alternate methods are called for, as in Position 19 (32Z 41). The normal 24/23 13/9 exposes a direct shot on the 9 point, so the unusual 24/20 24/23 is best. This theme comes up again in the next rule.

**5. Six-X: Split with 62 and 63. With 64, hit on your 3 point if possible, else Point.**

These are the default actions for your 6x replies. Many players miss the hit on the 3 point with a 64, as in Position 20 (52S 64).

5A. **Run after Opener slots or makes the Bar point.**

The idea is that splitting to Opener's Bar would leave too many numbers that both hit and cover, as in Position 21 (41S 63). And splitting is impossible, of course, once Opener makes the Bar.
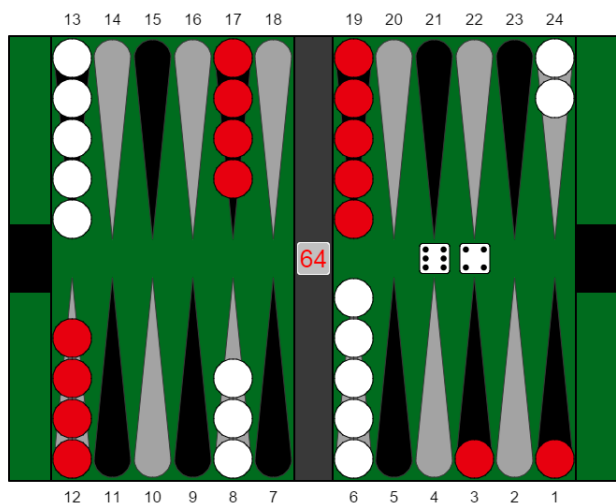

Position 20. 52S 64: 13/3*
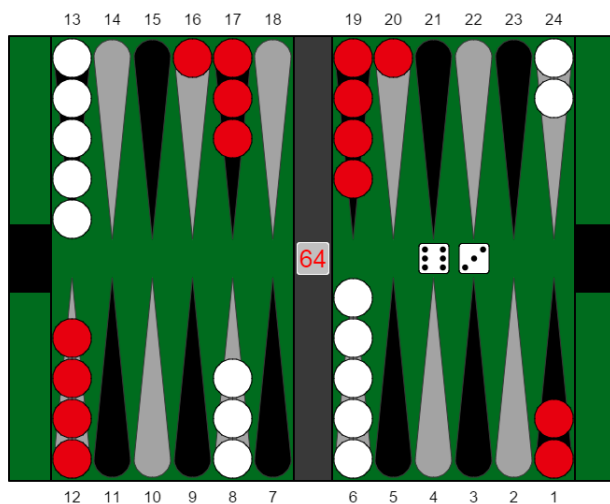
Position 21. 41$ 63: 24/15

5B. **Run *past* Down. Run past your *fortified* 8 point (62, 63 only).**

Run *past* Down means run to the outfield instead of splitting if you can get *past* both the checkers that were brought down by the Opener, as in Position 22 (43D 64). Running past only one checker would leave a double-direct shot with few returns, so play the normal split as in Position 23 (52D 62).
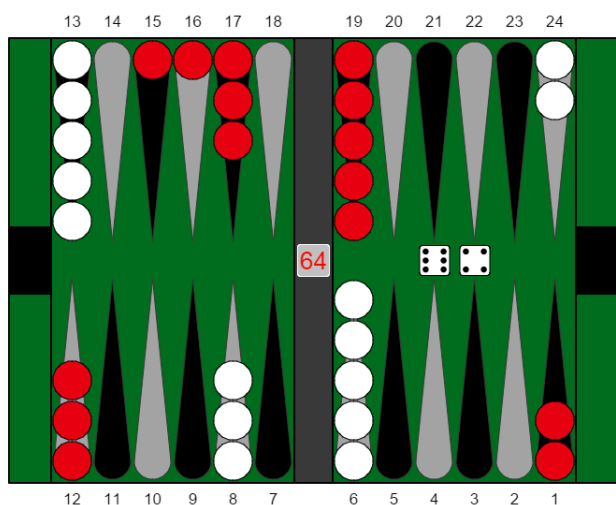
Position 22. 43D 64: 24/14
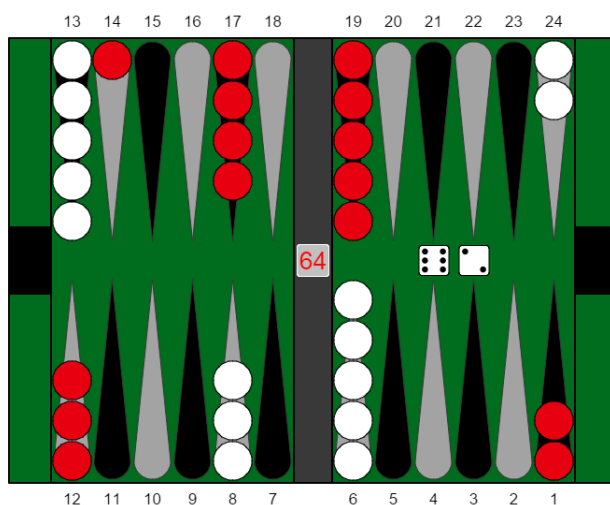

Position 23. 52D 62: 24/18 13/11

Additionally, with 62 and 63 you should run past splits that *fortify* (bring an extra checker to) the 8 point, as in Position 24 (52S 63). The idea is that when the 8 point is fortified, hitting 8/7* comes at less cost than usual to Opener since it no longer strips the 8 point. So hanging out on the Bar is less appealing to you. (This does not apply to your 64 since the normal play of pointing with 8/2 6/2 will be even more attractive in those cases when Opener splits.)

5C. **Avoid direct shots in your outfield by slotting.** (62R, 63R) 62: 13/5; 62R 63: 24/21 13/7
Consider Position 25 (62R 62). The normal split (24/18 13/11) would expose a direct shot on the 11 point, so the unusual 13/5 is called for. Similar to rule 4C above.
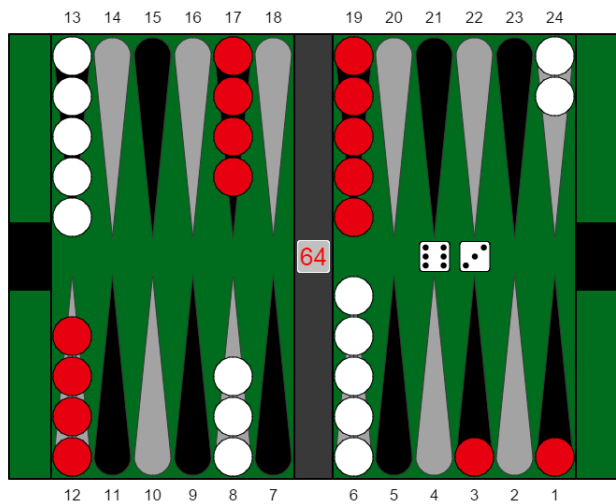

Position 24. 52S 63: 24/15
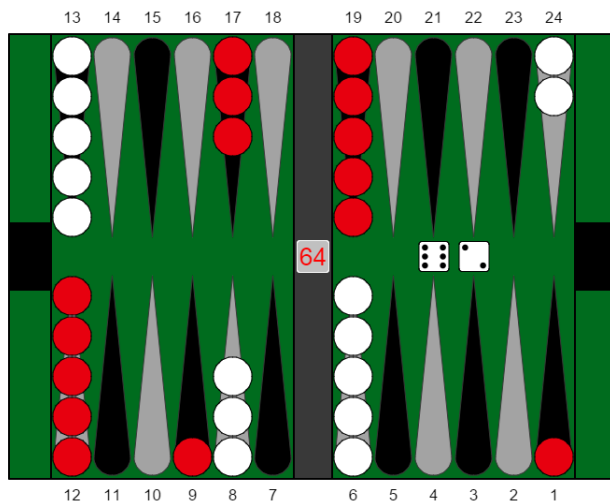
Position 25. 62R 62: 13/5

13

6. Others (32, 43, 52, 54). Down after Opener plays down or makes the 2 point, otherwise split. (Z with 43; Down if S/Z are blocked.)

The general idea is that after Opener plays down, bringing more ammunition into play, you don't want to invite an attack by splitting. Instead, play down as well, as in Position 26 (32D 43). When Opener does most anything else (splitting, slotting, running, pointing), you want to split, if possible. The only other case where playing down is called for is when Opener starts with the anti-positional 64P. Then splitting would again invite an attack, so down is best. See Position 27 (64P 43). Finally note that 24/21 13/9 (Z) is always the preferred split with 43, as in Position 28 (65R 43).
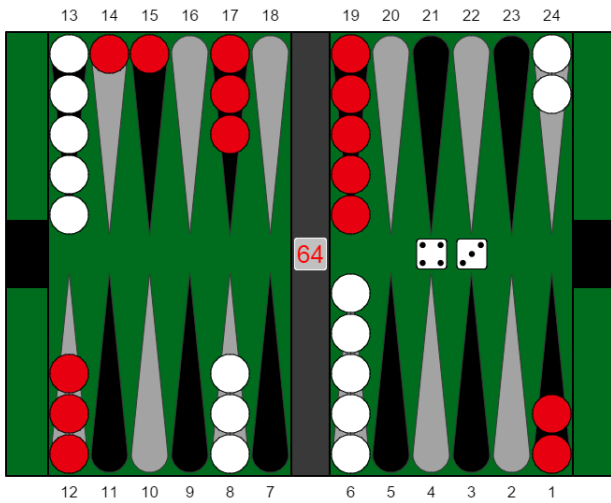
Position 26. 32D 43: 13/9 13/10
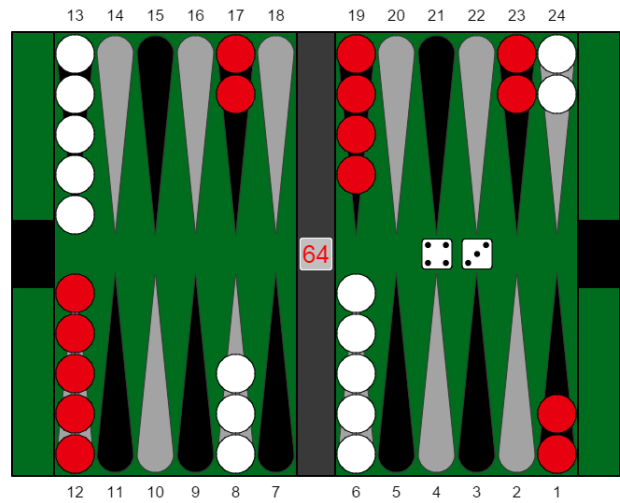
Position 27. 64P 43: 13/9 13/10
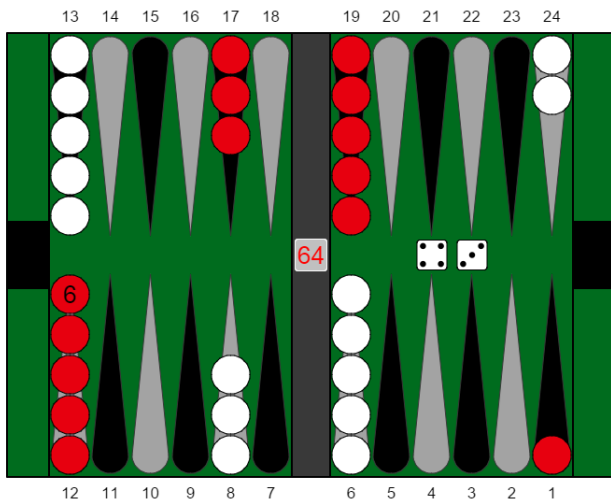
Position 28. 65R 43: 24/21 13/9

6A. **Slot your 4 point with deuces after weak slots from Opener (51$, 62$); play other number down.**

Here's a play that not many know. Slotting the 4 point is generally not as attractive a proposition as is slotting the 5 point, since it carries much the same risk for a lesser reward. However, when Opener slots his own 5 point

the play gets some added value by duplicating the Opener's 3s. That added value is proportional to how much the Opener *needs* 3s to cover his 5 point. If he opens with 21$ or 41$ he has lots of ways to cover and the


Position 29.   51$ 52: 13/8 6/4
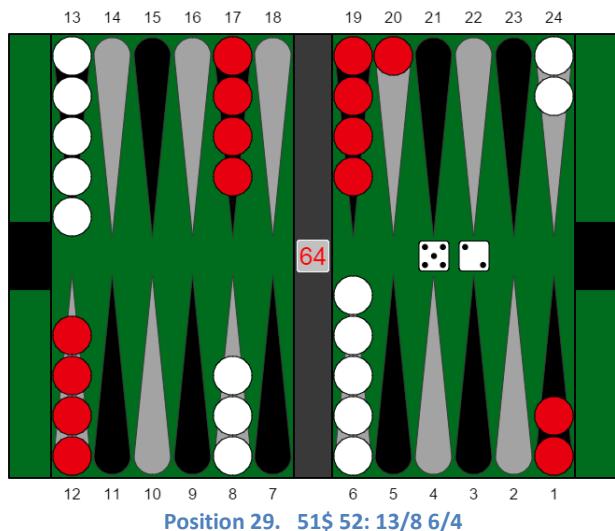
duplication is diluted. But when he opens with 51$ or 62$ he has fewer ways to cover and the duplication is effective.   So slot your deuces (52, 32) after the Opener's weakest slots (51$, 62$), as in Position 29 (51$ 52).

6B. **After Opener splits with 6x, hit 6/1* with 5s (52, 54). Split other checker.**
This well-known play breaks communication between Opener's two back checkers. See Position 30 (62S 52).

6C. **Hit on your 3 and 2 points with 32 and 43 (not 52 or 54). Split with other checker (play down after 52S).**
Many players miss these hits, such as Position 31 (41S 43). Split with the other checker unless the opening roll is 52S in which case play down, as in Position 32 (52S 43).

Position 30. 62S 52: 24/22 6/1*

Position 31. 41S 43: 24/21 6/2*

Position 32. 52S 43: 13/9 6/3*
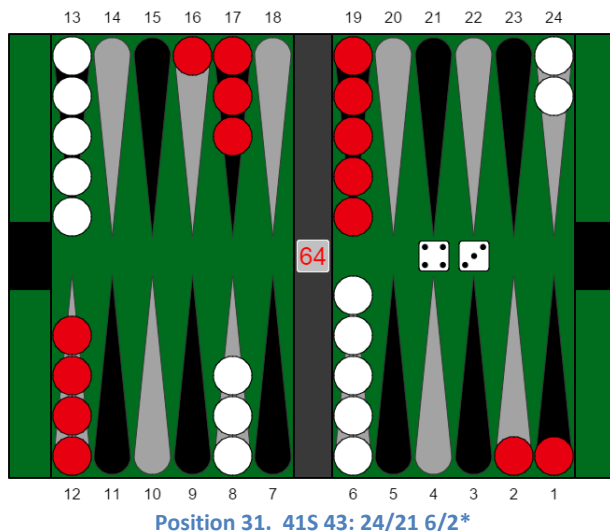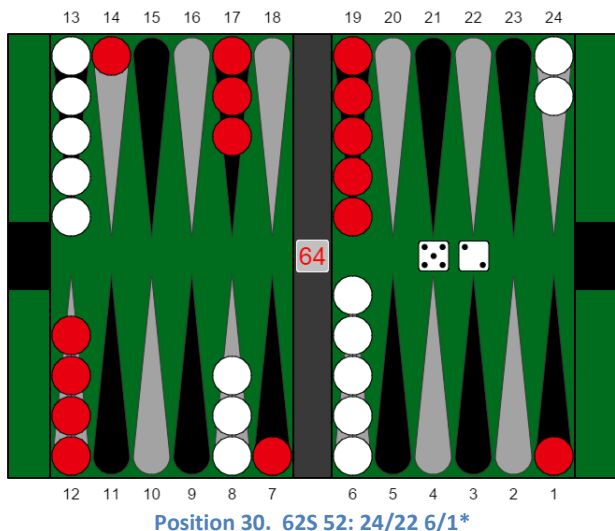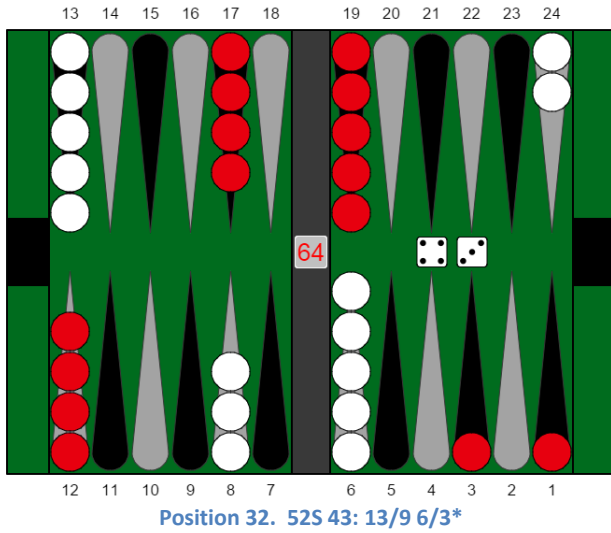
These six rules cover every Non-Double opening reply (404 best plays, 29 substitutions, and 17 exceptions. A summary table is provided in the Appendix.

On to the doubles.

Doubles

1. Aces : **Play 8/7(2) 6/5(2).**

Make the two strongest offensive points. This is the default play; alternatives are covered below.

1A. **After any (non 6x) split from Opener, play 24/22 6/5(2).**

After Opener splits with, say, 41S, the default play would leave a direct shot on the 8 point. So play 24/22 6/5(2) instead, as in Position 33. Less obvious are the cases where Opener splits to your 5 point, as in Position 34 (54S 11). Now making the Bar won't leave a direct shot since Opener will be on the roof after 6/5*(2). Still, splitting is correct. Opener is unlikely to re-anchor on your ace point, so making the Bar is diminished in value, and not worth the five fly-shots.

Position 33. 41S 11: 24/22 6/5(2)

Position 34. 54S 11: 24/22 6/5(2)

Position 35. 32S 11: 6/4*(2)
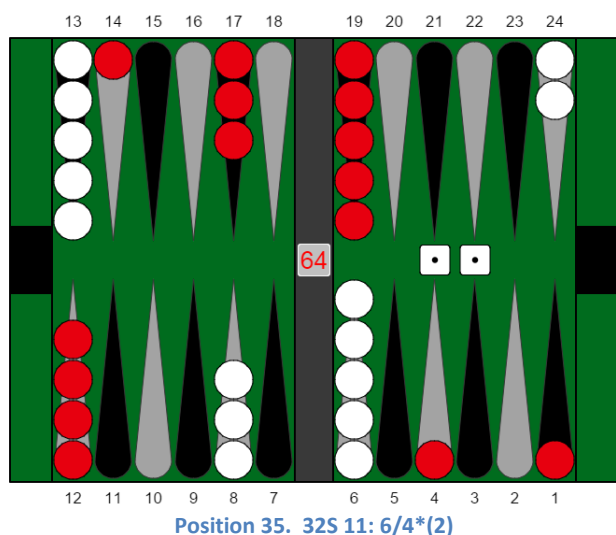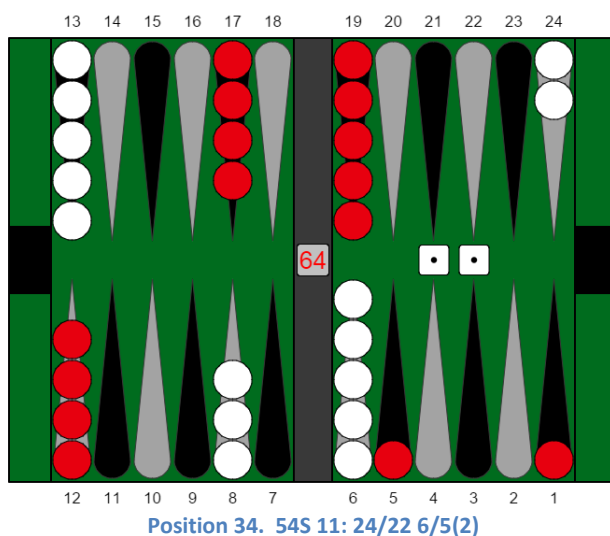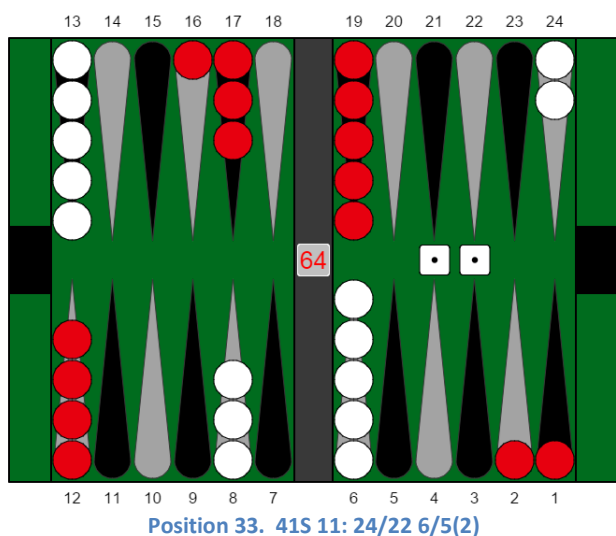
1B. **If there is a blot to hit on your 4 point, play 6/4*(2).** (32S, 43U, 43Z)
See Position 35 (32S 11).
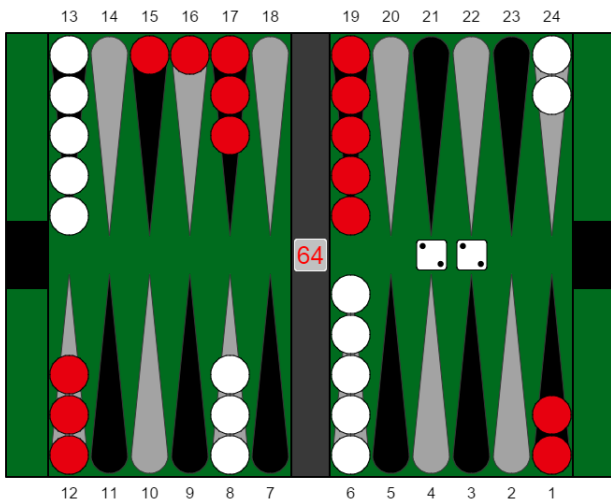
2. Deuces: Play 13/11(2) 6/4(2).

Make the two strongest offensive points.

2A. **After Opener makes a point or plays down, play 24/22(2) 6/4(2).** (13/11(2) 6/4(2) if blocked with 53P)
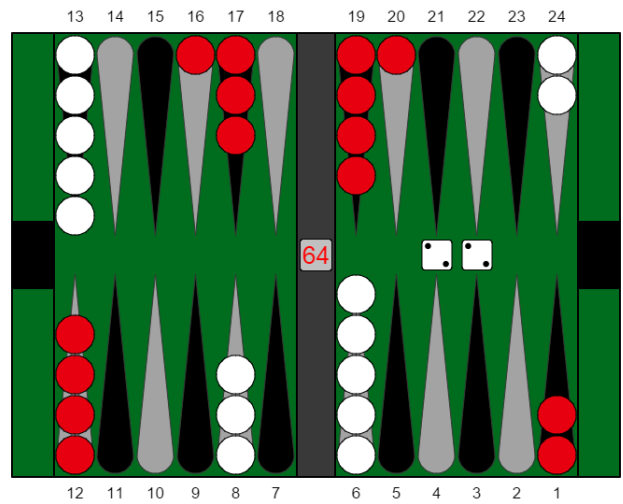
After Opener improves offensively, give some attention to defense, as in Position 36 (43D 22).

2B. **Hit blots on 20 or 9 points, along with 6/4(2).**

See Position 37 (41$ 22).

Position 36. 43D 22: 24/22(2) 6/4(2)

Position 37. 41$ 22: 24/20* 6/4(2)

3. Treys: Play 24/21(2) 13/10(2).

In contrast to Aces and Deuces, Treys give you the option of making a good advanced anchor while also improving offense. That's the default, though other plays can be called for, as covered below.

3A. **Play 8/5(2) 6/3(2) if hitting on 5 or 3 points, or after Opener runs.**

No need for defense if you can hit and make two strong points. Nor when Opener has run and made no offensive development, as in Position 38 (62R 33).

3B. **Play 13/7*(2) after 6-X split from Opener.**

See Position 39 (62S 33). Trying for more with 13/7* 8/5(2) is correct at Gammon Go, but not for Money.

Position 38. 62R 33: 8/5(2) 6/3(2)

Position 39. 62S 33: 13/7*(2)

Position 40. 21$ 33: 24/21(2) 8/5(2)
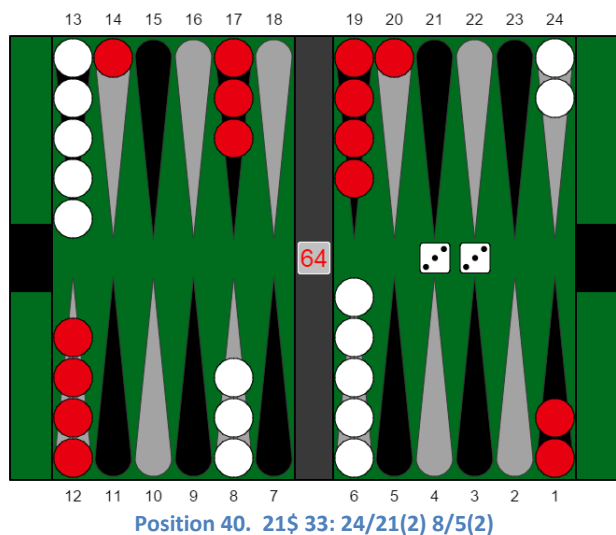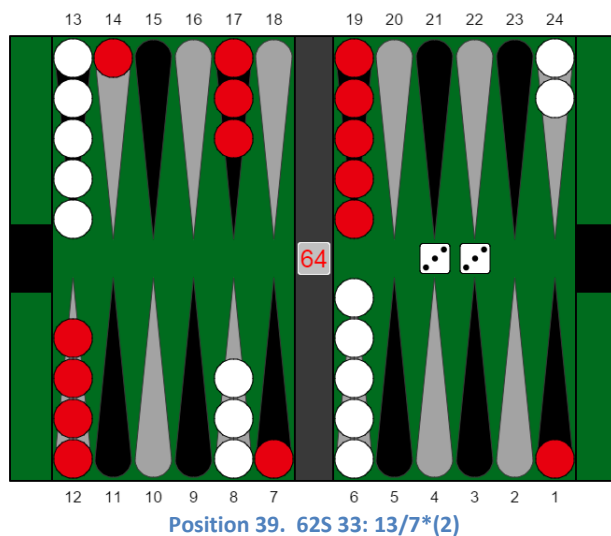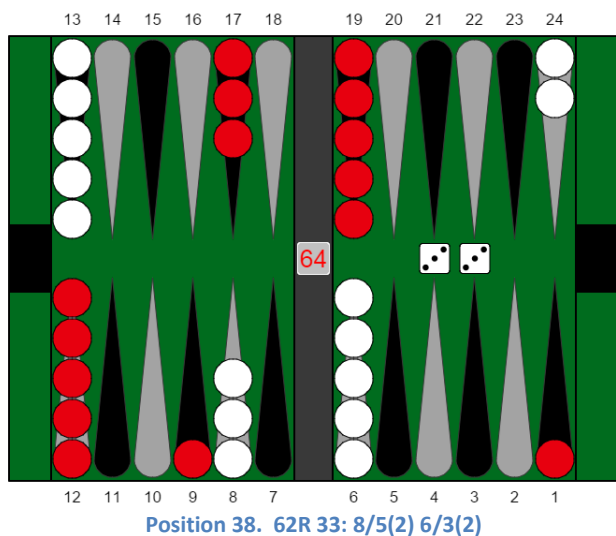
3C. **Play 24/21(2) 8/5(2) after slot or down from Opener.**

Many players overlook the tactical 24/21(2) 8/5(2), but it is called for when Opener has played Down or Slot, as in Position 40 (21$ 33). Your blot on the 8 point is less a liability than it first appears, given the opposing blots and your stronger board.

4. Fours: Play 24/20(2) 13/9(2).

The default play works on both offense and defense.

4A. **Point on blots on your 5 or 4 points (with 24/20(2), if possible).**

See Position 41 (32S 44).

4B. **Hit two blots if possible (not on you Ace point). Cover an inner blot or play 13/9(2) with your remaining moves, if any.**

See Position 42 (41S 44). The first three moves are used to hit on the 16 and 2 points. The final move covers the inner blot.
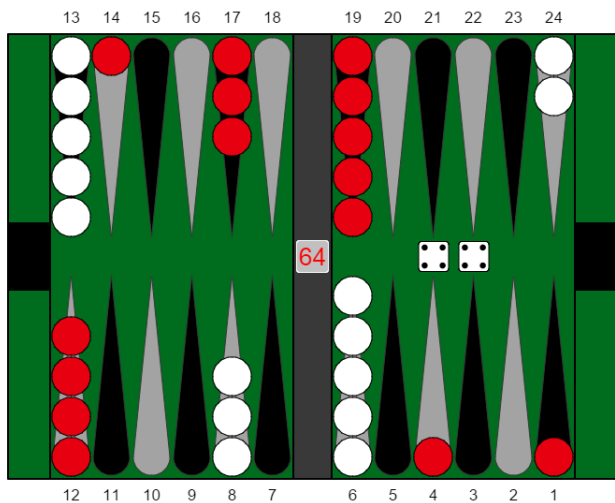
Position 41. 32S 44: 24/20(2) 8/4*(2)
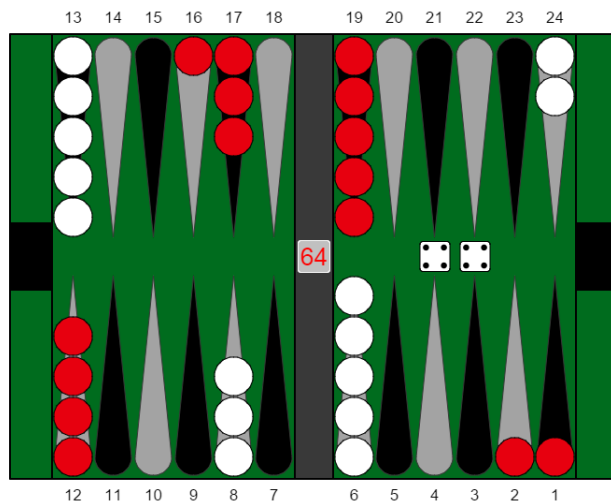
Position 42. 41S 44: 24/16* 6/2*(2)

4C. **Hit blot on 16 point with 13/9(2).**

See Position 43 (54D 44).
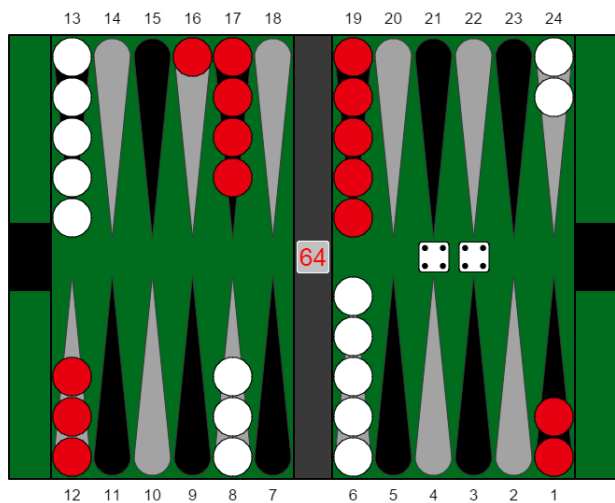
Position 43. 54D 44: 24/16* 13/9(2)

5. **Fives:** **Play 8/3(2) 6/1(2) if hitting on 3 or 1 points, otherwise 13/3(2).**

6. **Boxes:** **Play 24/18(2) 13/7(2).** (13/7(2) 8/2(2) if blocked by 61P).

These six rules cover every Double opening reply: 164 best plays, 7 substitutions, and 9 exceptions. A summary table is provided in the Appendix.

FlashBack

I trust that going over the rules and the presented examples has given you some new ways to think about the opening replies. Coming up with the rules certainly changed the way I look them. But if your goal is optimal performance over the board, a little more work is required. You'll need to know the combined thirty-eight rules and sub-rules, apply them correctly to normal positions, and memorize the twenty-six exceptions. And you'll want to practice enough to be quick and confident in all cases. You can do this on your own, but I know a better way . . .

FlashBack is a tool designed to help you memorize backgammon positions. It runs on your Android or iOS device (phone or tablet) so it's always within reach. Here's how it works. Each card sh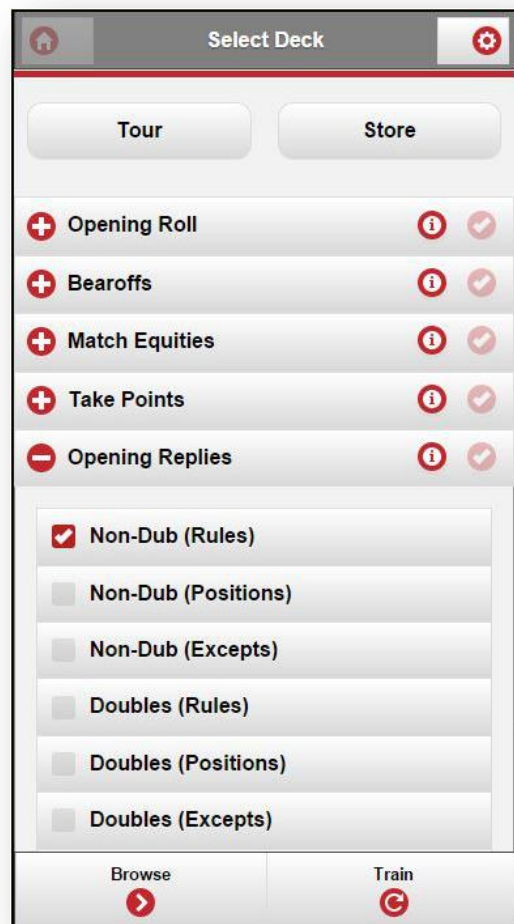ows a question. Tap on the question to see the answer. Choose Hard, So-So, or Easy to rate the card. Cards you rate as hard will be shown again more often than cards rated as easy, concentrating your practice on the material you most need.

Here's that process in more detail, specific to the Non-Doubles Opening Replies. First we'll cover how *FlashBack* can help you learn the six rules (and sixteen sub-rules) to your satisfaction. Then we'll go over how to use *FlashBack* to master the 433 "normal" positions that the rules cover. We'll conclude by looking at how to study the seventeen exceptions.

Rules

Expand the *Opening Replies* set and select the deck called *Non-Doubles (Rules).* Tap *Browse* at the bottom of the screen. You will be shown a flashcard – one of the 6 rules for Non-Doubles. Tap on the question and the answer will show below.

Left screen:

Non-Dub (Rules)

Ace-X:
A. B. C.

Hint ⓘ

Hard — So-So — Easy

Right screen:

Non-Dub (Rules)

Ace-X:
A. B. C.

Slot aces after Slot or Down, otherwise Split. (Slot if ace-split is blocked by 64P.)

A. Hit twice inside with same checker only with 41 after ace-split.
B. Treat 21$ as a virtual point: Split.
C. Avoid direct shots in your outfield -- play from rear.

Hard — So-So — Easy
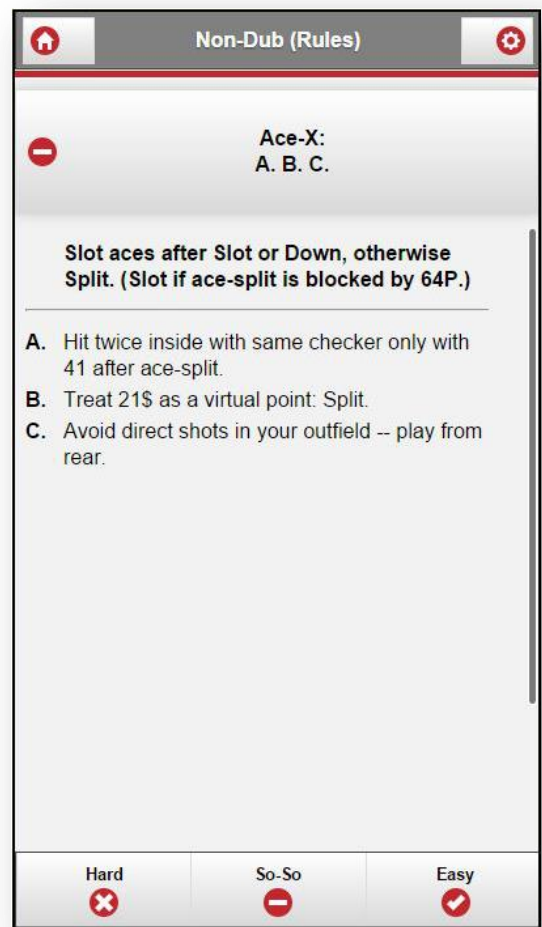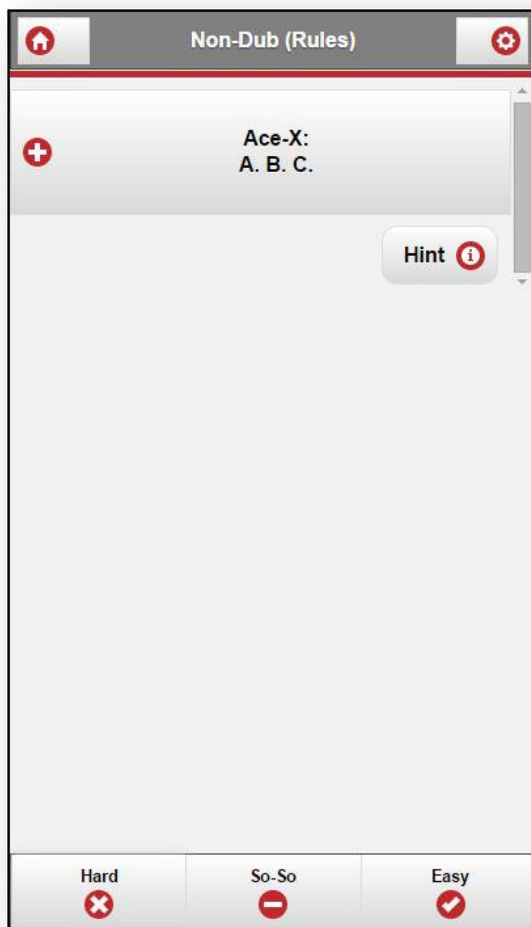
If your memory of the answer was clear and correct, tap Easy. If not, tap So-so or Hard. Flashback will keep track of your answers and show you the cards you most need to see.   Your first few times through the deck, limit your focus to just the top line. Once you're solid on all six basic rules, start absorbing all the sub-rules. Keep working until you achieve a reasonable level of comfort. Perfection is not required: you'll get lots more practice in the next step, applying the rules to actual positions.

Positions

When you feel ready, go back to the home screen and de-select *Non-Doubles (Rules)* and select *Non-Doubles (Positions)*. Tap *Browse*, and you will be shown a card like the one below.
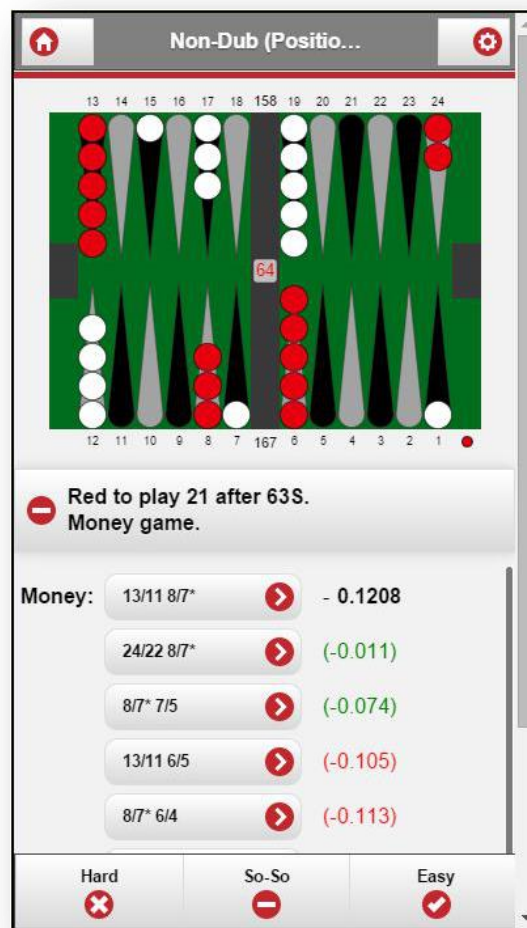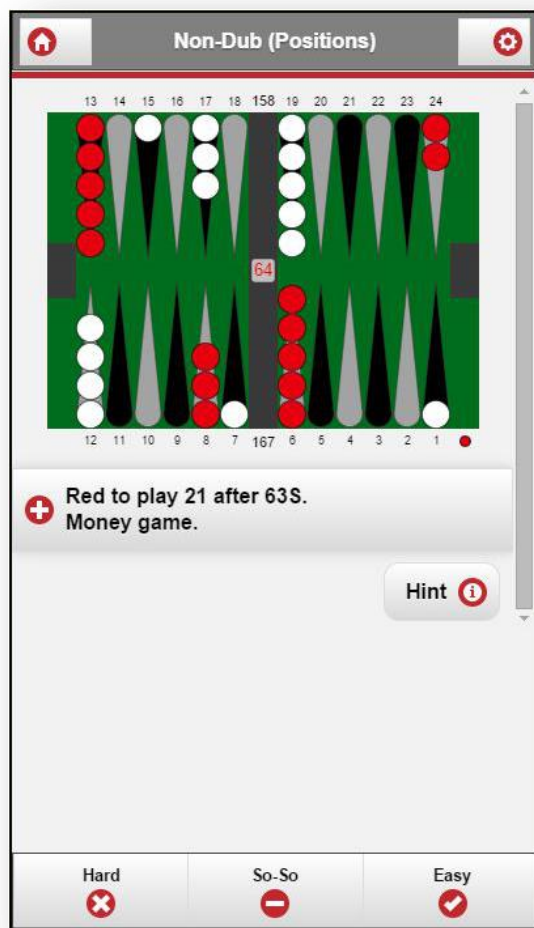
This card shows the position 63S 21.   Tap on the question to reveal the best play: 13/11 8/7* (Hit Outside). If the answer is unclear to you, tap the Hint button for more information (including much of the content of this article.)

FlashBack always displays the best play up top, with plays below ranked in order of equity. Equities of plays within .01 are shown in black. Equities off by more than .01 but less than .1 are shown in green. Mistakes greater than .1 are shown in red. Click on any play to see the resulting position on-screen.

Practice this deck, along with the Non-Doubles rules, until all the cards make sense and the patterns flow naturally.
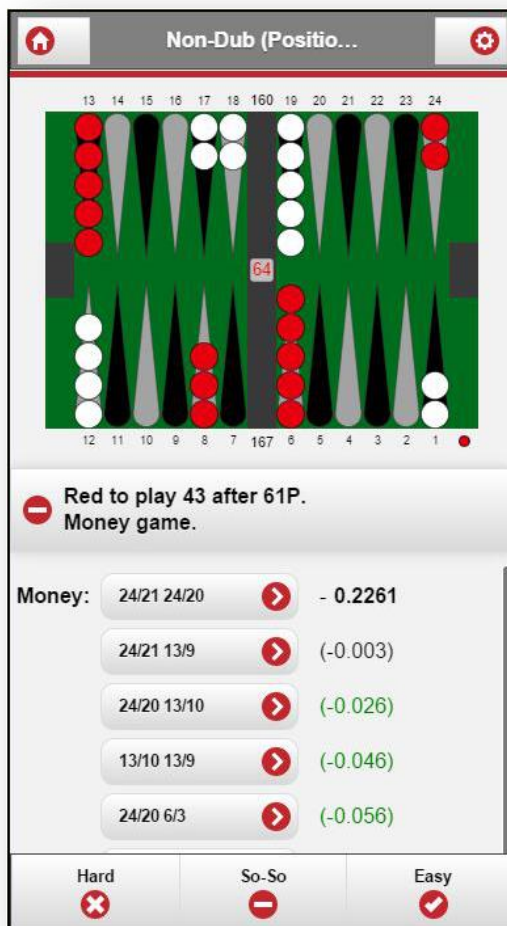
Exceptions

The next step is to master the exceptions. Deselect *Non-Doubles (Positions)* and select *Non-Doubles (Exceptions).* Now you will see the seventeen cards that don't fit the rules. Make sure you can identify the appropriate rule for each card, and train yourself to memorize the exceptional plays. A full list of the exceptions can be found in the Hint section for the *Replies* decks (available without purchase).

Finally, and most important, select **both** the *Non-Doubles (Positions)* and the *Non-Doubles (Exceptions)* decks. **FlashBack** will show you positions from each deck, all mixed together, just like they occur over the board. You'll know you're ready when the exceptions stand out immediately from the rest of the pack. And then you can restart the entire process for the Doubles.

While the system developed in this paper takes the simplifying shortcut of allowing substitutions, the flashcard data is all accurate and unabridged. For example, the card below shows the answer given for (61P 43). Rule "Others" suggests 24/21 13/9, but that play is a substitution – 24/21 24/20 is actually .003 better. Note that **FlashBack** displays the correct play up top, and also shows that the substitution is within the .01 margin of error. Color coding helps make this clear – the equities of plays within .01 are shown in black. You will always see the best available data, and can decide for yourself whether to tackle the substitutions.

But suppose you don't care for these rules, substitutions, or exceptions in the first place. Perhaps you already know most of the replies, and just want to drill them without the overhead of any "system." **FlashBack** is still the right tool for the job. Simply ignore the Rules decks, and combine the Positions and Exceptions decks. Now you can train with the complete set of Opening Replies, system be damned.

FlashBack is a free download for both Android and iOS, and comes with pre-installed decks for the Opening Roll (money and match play), Two- and Three-Checker Bear-offs, Match Equities, and Take Points. Use the free decks to make sure **FlashBack** behaves to your liking before moving on. The Opening Replies deck-set is available for $20 through in-app purchase. It includes the decks: Non Doubles (Rules), Non Doubles (Positions), Non Doubles (Exceptions), as well as Doubles (Rules), Doubles (Positions), Doubles (Exceptions), as well as **all of the Opening Replies at DMP, GG, and GS,** for well over 2500 positions. Available now on the Google Play and Apple App Stores.

Studying the Opening Replies using this system and **FlashBack** has dramatically improved my game. I hope it helps yours.

Acknowledgements

Appendix: Summary Tables

Non-Doubles

Rule	Description	Best	Sub	Expt
1. Hit Outside	**Hit any blot outside your home board**	34		
A	Hit in outfield rather than on your Bar. (62S 64; 63S 63; 64S 62)	3		
B	With direct hit from 24 or 8pt, play from Mid. With hit from Mid, play from 24pt.	46	2	1
i	- With 24/20*, 6s are played to 14pt. (21$, 41$, 51$, 62$) 64: 24/20*/14	4		
ii	- After 6x split, 65 hits on Bar and Ace. (62S, 63S, 64S) 65: 13/7* 6/1*	3		
C	Forgo hitting on your Bar to make your 5pt. (62S, 63S, 64S) 31: 8/5 6/5	2	1	
2. Naturals	**31, 42, 53, 61, 65.** (If blocked: 61P 65: 13/7 13/8)	114	1	1
A	Forgo making 3pt to hit loose on 5pt. (43S, 43U, 54S) 53: 13/5*	3		
3. Hit Inside	**Hit loose on 5 and 4 points**	4		
A	With other checker: Hit again on 5, 4 (do not break 8pt), play from Mid, 24pt.	25	4	2
B	After 43U, hit from Mid rather than expose additional blots: 43U (62, 63): 13/x*	2		
C	Forgo hitting on 4pt with 64. (43U, 43Z) 64: Covered under 64 rule.			
Note:	*Never hit second checker on 3, 2, or Ace after hitting on 5 or 4*			
4. Ace-X	**Slot aces (21, 41, 51) after Slot or Down, otherwise Split.** (Slot if ace-split is blocked by 64P.)	48	1	4
A	Hit twice inside with same checker only with 41 after ace-split: (21S, 41S, 51S) 41: 6/2*/1*	3		
B	Treat 21$ as a virtual point: Split. 21$ (21, 51): 13/x 24/23.	2		
C	Avoid direct shots in your outfield – play from rear: (52S, 32Z) 41: 24/20 24/23; 62R 21: 24/21	2	1	
5. Six-X	**Split with 62, 63; With 64 hit on 3pt if possible, else Point.**	25	3	3
A	Run after Slot or 61P.	7	2	1
B	Run *past* Down. 62, 63: Run past fortified 8pt.	8	1	
C	Avoid direct shots in your outfield -- slot: (62R, 63R) 62: 13/5; 62R 63: 24/21 13/7	3		
6. Others:	**(32, 43, 52, 54)**	53	11	4
	Down after Down or 2pt, otherwise Split. (Z with 43; Down if S/Z are blocked.)			
A	Slot 4pt with deuces after weak slots (51$, 62$); play other number down	3	1	
B	Hit 6/1* with 5 after 6x Split. Split other checker	5		
C	Hit on 3 and 2pts with 32, 43. Split other checker (Down after 52S)	5	1	1
	Non-Doubles Totals:	404	29	17

Doubles

Rule	Description	Best	Sub	Expt
1. Aces	**8/7(2) 6/5(2)**	16	4	
A	24/22 6/5(2) after (non-6x) Split	7		
B	6/4*(2), if possible (32S, 43U, 43Z)	3		
2. Deuces	**13/11(2) 6/4(2)**	14		2
A	24/22(2) 6/4(2) after Point or Down. (13/11(2) 6/4(2) if blocked with 53P)	6	1	2
B	Hit blots on 20 or 9, with 6/4(2).	5		
3. Treys	**24/21(2) 13/10(2). (8/5(2) 6/3(2) if blocked by 42P.)**	10		2
A	8/5(2) 6/3(2) if hitting on 5 or 3, or after Run	7		
B	13/7*(2) after 6x Split	3		
C	24/21(2) 8/5(2) after Slot or Down	5	1	2
4. Fours	**24/20(2) 13/9(2). (13/5(2) if blocked by 31P)**	20		
A	Point on blots on 5 or 4 (with 24/20(2) if possible)	3		
B	Hit two blots (not on Ace) if possible. Cover an inner blot or play 13/9(2) with your remaining moves, if any.	4		
C	Hit blot on 16 with 13/9(2)	1	1	1
5. Fives	**8/3(2) 6/1(2) if hitting on 3 or 1, otherwise 13/3(2)**	30		
6. Boxes	**24/18(2) 13/7(2). (13/7(2) 8/2(2) if blocked by 61P)**	30		
	Doubles Totals:	164	7	9
	Non-Doubles Totals:	404	29	17
	Grand Totals:	568	36	26

630 total cases