

# Strategy under the World Mind Sports Games Rules of Play

Version 1. 2008-07-05. Robert Jasiek.

## Preface

This document is an introduction to aspects of basic strategy specific to the World Mind Sports Games Rules. Until the World Mind Sports Games 2008 Rules will be clarified, the Simplified World Mind Sports Games Rules are used. Under these rules, 1 point is subtracted from Black if White has made the first pass of the game.

For simplification, the komi is 0 in each example. Before the first move in an example, if there are equally many black and white stones on the board, then Black moves - if there is one more black stone than white stones on the board, then White moves. Therefore each example position can be constructed without letting a player pass.

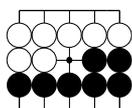
After the first succession of two passes, generally it is assumed that the players agree on which stones shall be removed before scoring. By convention, positive scores favour Black - negative scores favour White. For the sake of simplicity, earlier positions until creation of the example positions are assumed not to reoccur during the shown variations.

"miai value" means "value per move" in yose calculations. E.g., calculating the area, if Black occupies a dame, then Black makes 1 point; if instead White occupies that dame, then White makes -1 point (negative points favour White); the value difference between both cases is  $1 - (-1) = 2$ ; the number of moves difference between both cases is 1 black move versus 1 white move, i.e., 2 moves; now the miai value of getting the dame as an endgame is the value difference divided by the move difference, i.e.  $2 / 2 = 1$ . - The "area miai value" relies on the Area Scoring principle; the "territory miai value" relies on the Territory Scoring principle.

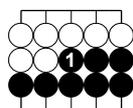
## Smallest Score Difference

**The smallest score difference is 1.**

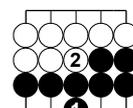
This is so even when the seki parity does not change. For comparison, normally under Area Scoring the smallest score difference is 2 while under Territory Scoring it is 1.



Example 1



② pass, ③ pass.  
Variation 1.1  
score = 0



③ pass, ④ pass.  
Variation 1.2  
score = -1

Example 1: As Variation 1.1 versus Variation 1.2 shows, the smallest score difference is 1.

Variation 1.1: White makes the first pass. The score is  $13 - 12 - 1 = 0$ .

Variation 1.2: Black 1 makes a strategic mistake. Black makes the first pass. The score is  $12 - 13 = -1$ .

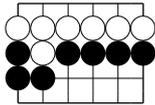
## Endgame Value of the First Pass

**The area miai value of the first pass is 0.5.**

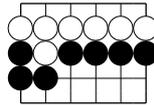
The territory miai value of the first pass is 0.5.

Since the first pass does not change the position, the area miai value of the first pass equals its territory miai value. If Black makes the first pass, then this costs 0 points. If White makes the first pass, then this costs Black 1 point, i.e. the effect on the score is -1. Thus the miai value of the first pass is  $(0 - (-1)) / 2 = (0 + 1) / 2 = 0.5$ .

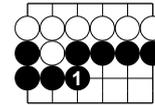
The area miai value of playing in one's own or in opposing territory is 0 because (usually) it will not change the score. The area miai value of the first pass is greater. Therefore, **when the yose is over, usually it is strategically correct to make the first pass before making superfluous defensive plays inside one's territory and before making approach plays to dead stones to be removed.**



Example 1



① pass, ② pass.  
Variation 1.1  
correct; score = 4

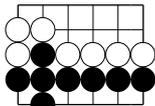


② pass, ③ pass.  
Variation 1.2  
mistake; score = 3

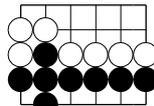
Example 1: Black should make the first pass instead of making a superfluous defense.

Variation 1.1: It is strategically correct for Black to pass. Black makes the first pass. The score is  $17 - 13 = 4$ .

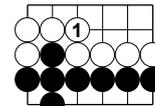
Variation 1.2: Making the superfluous defensive play Black 1 is a strategic mistake. White makes the first pass. The score is  $17 - 13 - 1 = 3$ .



Example 2



① pass, ② pass.  
Variation 2.1  
correct; score = -5

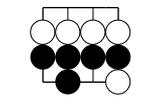


② pass, ③ pass.  
Variation 2.2  
mistake; score = -4

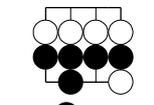
Example 2: White should make the first pass instead of making a superfluous defense.

Variation 2.1: It is strategically correct for White to pass. White makes the first pass. The score is  $13 - 17 - 1 = -5$ .

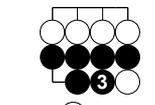
Variation 2.2: Making the superfluous defensive play White 1 is a strategic mistake. Black makes the first pass. The score is  $13 - 17 = -4$ .



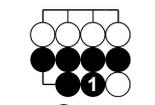
Example 3



① pass,  
② pass.  
Variation 3.1  
correct



④ pass,  
⑤ pass.  
(continuation after disagreement)  
score = 0



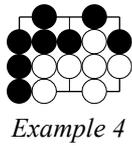
② pass,  
③ pass.  
Variation 3.2  
mistake; score = -1

Example 3: Black should make the first pass before approaching the supposedly dead stone.

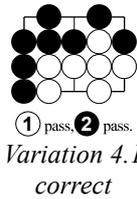
Variation 3.1: It is strategically correct for Black to pass. Black makes the first pass. The score is  $8 -$

8 = 0. (After move 2, instead of disagreeing and continuing actual play, the players might also agree to remove the lonely white stone and then simply remove it. The score would be the same.)

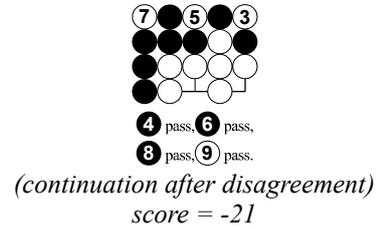
Variation 3.2: Starting the final removals before the first pass is a strategic mistake. White makes the first pass. The score is  $8 - 8 - 1 = -1$ .



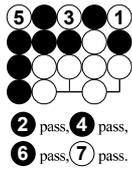
Example 4



Variation 4.1  
correct



(continuation after disagreement)  
score = -21



Variation 4.2  
mistake; score = -20

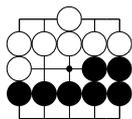
Example 4: White should make the first pass before approaching the supposedly dead stones. (Note: Assume that Black's previous play had been on the left side of the board.)

Variation 4.1: It is strategically correct for White to pass. White makes the first pass. The score is  $0 - 20 - 1 = -21$ . (After move 2, instead of disagreeing and continuing actual play, the players might also agree to remove all black stones and then simply remove them. The score would be the same.)

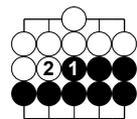
Variation 4.2: Starting the final removals before the first pass is a strategic mistake. Black makes the first pass. The score is  $0 - 20 = -20$ .

## The First Pass as Tedomari

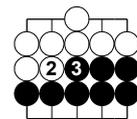
If the remaining yose plays are pairwise equal options, the first pass can be played afterwards or before.



Example 1



Variation 1.1  
correct; score = 1

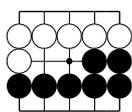


Variation 1.2  
correct; score = 1

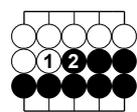
Example 1: Black can make the first pass after or before an even number of 2-sided dame.

Variation 1.1: Black makes the first pass. The score is  $13 - 12 = 1$ .

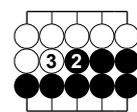
Variation 1.2: Black makes the first pass. The score is  $13 - 12 = 1$ .



Example 2



Variation 2.1  
correct; score = 0

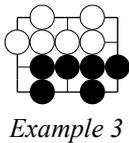


Variation 2.2  
correct; score = 0

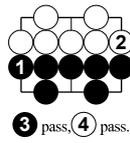
Example 2: White can make the first pass after or before an even number of 2-sided dame.

Variation 2.1: White makes the first pass. The score is  $13 - 12 - 1 = 0$ .

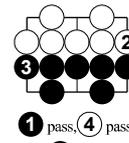
Variation 2.2: White makes the first pass. The score is  $13 - 12 - 1 = 0$ .



Example 3



3 pass, 4 pass.  
Variation 3.1  
correct; score = 0

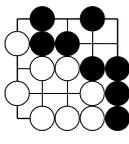


1 pass, 4 pass,  
5 pass.  
Variation 3.2  
correct; score = 0

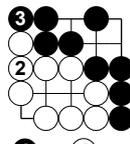
Example 3: Black can make the first pass after or before yose plays that are equal options.

Variation 3.1: Black makes the first pass. The score is  $10 - 10 = 0$ .

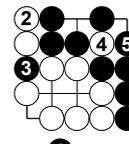
Variation 3.2: Black makes the first pass. The score is  $10 - 10 = 0$ .



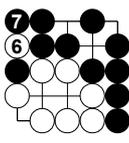
Example 4



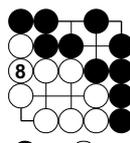
1 pass, 4 pass,  
5 pass.  
Variation 4.1  
correct; score = 1



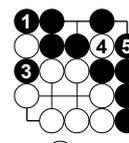
1 pass.  
Variation 4.2  
correct



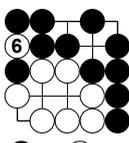
(continuation)



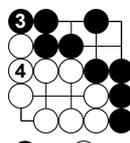
9 pass, 10 pass.  
(continuation)  
score = 1



2 pass.  
Variation 4.3  
mistake



7 pass, 8 pass.  
(continuation)  
score = 0



1 pass, 2 pass,  
5 pass, 6 pass.  
Variation 4.4  
correct; score = 1

Example 4: Making the first pass is more urgent than playing the one privilege dame when there are no other gote dame elsewhere on the board.

Variation 4.1: Black makes the first pass. Starting with the pass 1 is the correct strategy. The score is  $13 - 12 = 1$ .

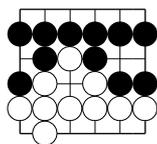
Variation 4.2: Due to the prohibition of recreating any earlier position, White may not recapture the stone 3 immediately. This would recreate the initial example position. Therefore White 4 has to be a ko threat. However, White does not achieve more than in Variation 4.1. Black 1 makes the first pass. The score is  $13 - 12 = 1$ .

Variation 4.3: Black 1 is a strategic mistake. White makes the first pass. The score is  $13 - 12 - 1 = 0$ .

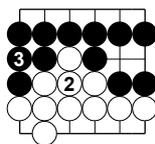
Variation 4.4: White 2 wants to test the rules. After the first succession of two passes, the players should disagree about which stones to remove and then resume alternate moves. Black makes the first pass of the game. The score is  $13 - 12 = 1$ .

Notes: Under the Simplified World Mind Sports Games Rules, playing the first pass as tedomari does not create a rules problem. However, under the (early versions of the) World Mind Sports Games 2008 Rules, it is ambiguous whether a privilege dame is a "contestable point", which may

not be taken during resumed alternate moves after the first succession of two passes and the agreement-disagreement-phase; with this interpretation, the resumption at move 3 of Variation 4.4 would be disallowed.

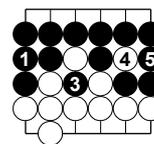


Example 5



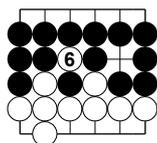
① pass, ④ pass,  
⑤ pass.

Variation 5.1  
correct; score = 4



② pass.

Variation 5.2  
mistake



⑦ pass, ⑧ pass.  
(continuation)  
score = 3

Example 5: The first pass is tedomari.

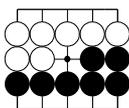
Variation 5.1: Black makes the first pass. The score is  $20 - 16 = 4$ .

Variation 5.2: Black 1 is a strategic mistake. White makes the first pass. Although Black captures first, White still wins the remaining ko because of his lead on ko threats. The score is  $20 - 16 - 1 = 3$ .

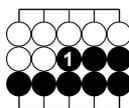
## Odd Number of 2-sided Dame

**When there is an odd number of 2-sided dame but no other remaining yose, then playing on the excess dame has the area miai value 1. Play it before the first pass!**

Note: It is recommended to play all 2-sided dame before the first succession of two passes because afterwards agreement-disagreement-phase and a possible resumption are meant for the removal of supposedly dead stones.

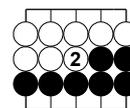


Example 1



② pass, ③ pass.

Variation 1.1  
correct; score = 0



① pass, ③ pass,

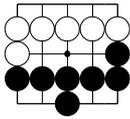
④ pass.

Variation 1.2  
mistake; score = -1

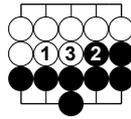
Example 1: Black should play on the excess dame, although this lets him make the play preceding the first pass.

Variation 1.1: White makes the first pass. The score is  $13 - 12 - 1 = 0$ .

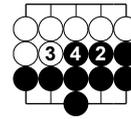
Variation 1.2: Black 1 is a strategic mistake. Black makes the first pass. The score is  $12 - 13 = -1$ .



Example 2



④ pass, ⑤ pass.  
Variation 2.1  
correct; score = -1



① pass, ⑤ pass,  
⑥ pass.  
Variation 2.2  
mistake; score = 0

Example 2: White should play on the excess dame, although this lets Black make the first pass.

Variation 2.1: Black makes the first pass. The score is  $12 - 13 = -1$ .

Variation 2.2: White 1 is a strategic mistake. White makes the first pass. The score is  $13 - 12 - 1 = 0$ .

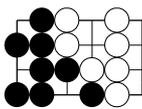
## Kos - Preface

As the paper "Ko and Dame Endgames under Area Scoring" by Robert Jasiek shows, strategy about ko, dame, and teire endgames under Area Scoring requires some thinking and is not as easy as under Territory Scoring. Now the introduction of the 1 point adjustment for White making the first pass asks for attention as well. Roughly speaking, the ko and dame endgames are similar to those under Area Scoring. There can be either no ko fights, ordinary ko fights, or dame ko fights. Respectively, the area miai value of a ko itself might be either 0, 2/3, or 4/3. However, winning the last ko is now also compensated by the "first pass rule". So one should expect some strategic changes. By far not all cases can be discussed here; rather the reader should apply some tactical thinking in his games while not forgetting to include the endgame value contained in the first pass in his considerations. The following sections are just a more or less representative random selection to encourage further strategic study of one's own.

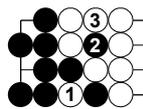
## Ordinary Ko Fight without Dame

**When there are no dame, the difference between winning and losing the last ordinary ko fight is 3 points.**

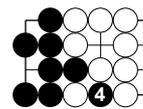
Because of the first pass rule, this is 1 point less than under Area Scoring.



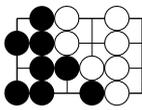
Example 1



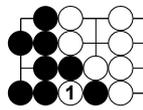
Variation 1.1  
correct



⑤ pass, ⑥ pass.  
(continuation)  
score = -3



① pass, ② pass.  
Variation 1.2  
correct; score = -3



② pass, ③ pass.  
Variation 1.3  
mistake; score = -6

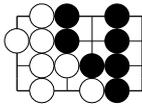
Example 1: This is an ordinary ko fight. Black wins the ko fight but White gets the first pass. (After winning the ko, it does not need to be connected because further plays for approaching dead stones are not necessary and so will not change the position.)

Variation 1.1: White loses the ko fight because Black has one ko threat more than White. White makes the first pass. The score is  $11 - 13 - 1 = -3$ .

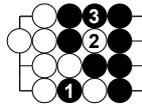
Variation 1.2: White shows no fighting spirit and acknowledges defeat in the ko fight immediately. Since Black has one ko threat more, this is also correct strategy though. White makes the first pass.

The score is  $11 - 13 - 1 = -3$ .

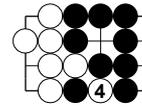
Variation 1.3: Black 2 takes the first pass but is a strategic mistake because winning the ko is worth more than getting the first pass. Black makes the first pass. The score is  $9 - 15 = -6$ .



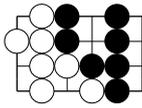
Example 2



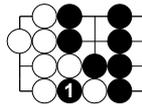
Variation 2.1  
correct



5 pass, 6 pass.  
(continuation)  
score = 2



1 pass, 2 pass.  
Variation 2.2  
correct; score = 2



2 pass, 3 pass.  
Variation 2.3  
mistake; score = 5

Example 2: This is an ordinary ko fight. White wins the ko fight but Black gets the first pass. (After winning the ko, it does not need to be connected because further plays for approaching dead stones are not necessary and so will not change the position.)

Variation 2.1: Black loses the ko fight because White has one ko threat more than Black. Black makes the first pass. The score is  $13 - 11 = 2$ .

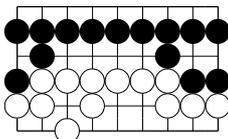
Variation 2.2: Black shows no fighting spirit and acknowledges defeat in the ko fight immediately. Since White has one ko threat more, this is also correct strategy though. Black makes the first pass. The score is  $13 - 11 = 2$ .

Variation 2.3: White 2 takes the first pass but is a strategic mistake because winning the ko is worth more than getting the first pass. White makes the first pass. The score is  $15 - 9 - 1 = 5$ .

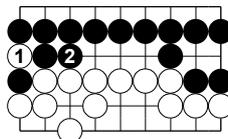
## Ordinary Ko Fight with Dame

**When there are dame, the difference between winning and losing the last ordinary ko fight is 1 point.**

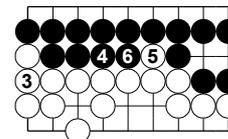
Because of the first pass rule, this is 1 point less than under Area Scoring.



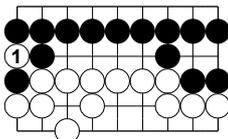
Example 1



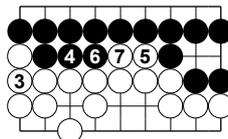
Variation 1.1  
correct



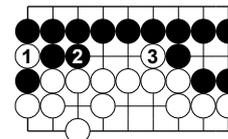
7 pass, 8 pass.  
(continuation)  
score = -1



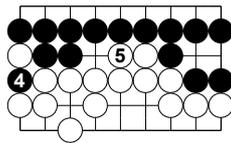
2 pass.  
Variation 1.2  
mistake



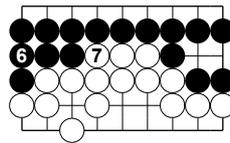
8 pass, 9 pass.  
(continuation)  
score = -2



Variation 1.3  
mistake



(continuation)



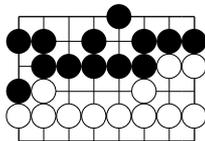
8 pass, 9 pass.  
(continuation)  
score = 0

Example 1: There is an even number of dame. As the reader can verify for himself, White cannot both win the ko and get half of the dame. Therefore Variation 1.1 is correct. In comparison, letting Black win the ko as in Variation 1.3 is 1 point worse.

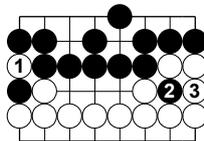
Variation 1.1: White chooses the ordinary ko fight. The ko fight is short because Black does not even have one regular ko threat; he admits defeat already at move 2. White makes the first pass. The score is  $27 - 27 - 1 = -1$ .

Variation 1.2: Black 2 is a strategic mistake. Black makes the first pass. The score is  $26 - 28 = -2$ .

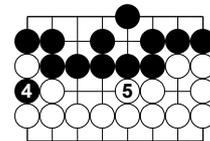
Variation 1.3: White 5 is a strategic mistake. Black makes the first pass. The score is  $27 - 27 = 0$ .



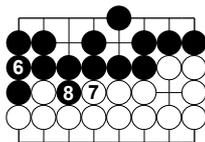
Example 2



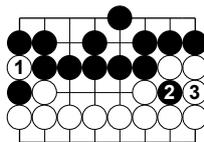
Variation 2.1  
correct



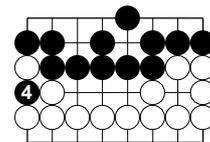
(continuation)



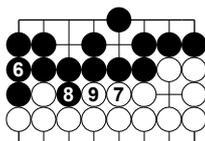
9 pass, 10 pass.  
(continuation)  
score = -1



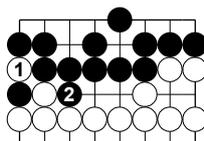
Variation 2.2  
correct



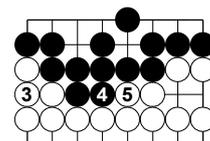
5 pass.  
(continuation)



10 pass, 11 pass.  
(continuation)  
score = -1



Variation 2.3  
mistake



6 pass, 7 pass.  
(continuation)  
score = -2

Example 2: There is an odd number of dame. As the reader can verify for himself, Black cannot both win the ko and get more than half of the dame. A comparison Variations 2.1 and 2.2 with Variation 2.3 reveals that letting White win the ko is 1 point worse.

Variation 2.1: Black wins the ordinary ko fight. White makes the first pass. The score is  $24 - 24 - 1 = -1$ .

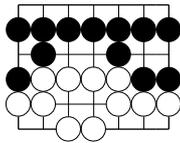
Variation 2.2: Black wins the ordinary ko fight. White makes the first pass. If Black 6 tried a variation, this would not improve on the score. The score is  $24 - 24 - 1 = -1$ .

Variation 2.3: Black 2 is a strategic mistake. Black makes the first pass. The score is  $23 - 25 = -2$ .

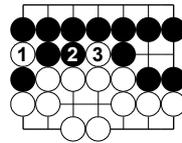
## Dame Ko Fight

To win the last ordinary ko fight and get half of the dame, a player needs about an excess of regular ko threats greater than half the number of dame. The opponent can use also dame as

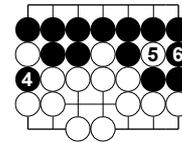
ko threats.



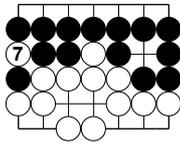
Example 1



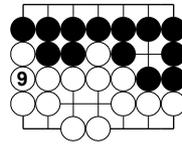
correct



(continuation)



8 pass.  
(continuation)

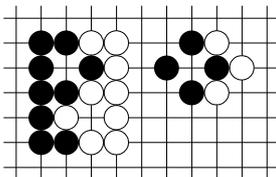


10 pass, 11 pass.  
(continuation)  
score = 0

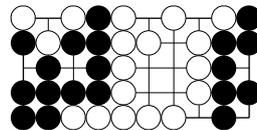
Example 1: Black 2 is a ko threat: Black threatens to get both dame. White 3 answers the ko threat. With White 5, White demonstrates that his regular ko threats last longer than dame are available. Black makes the first pass. The score is 21 - 21 = 0.

## Several Kos

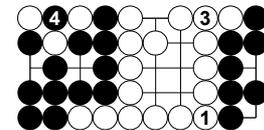
Although in theory superko fights could become arbitrarily complex (e.g., four 8-tuple kos), in practice they are either immaterial (e.g., two smaller kos and one big ko), a one-sided source of ko threats (basic ko + double ko death), or behave like an ordinary ko fight (e.g., basic triple ko shape).



Example 1



Example 2

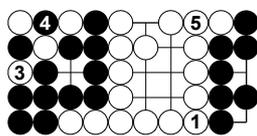


2 pass, 5 pass, 6 pass.  
Variation 2.1  
correct; score = 4

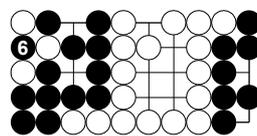
Example 1: During the middle game, each of the two kos on the left is just an endgame ko about 2 intersections; these kos are small. Contrarily the ko fight on the right is big. Therefore the players will ignore the small kos and fight the big ko by using ko threats elsewhere on the board.

Example 2: A double ko death serves as a supply of arbitrarily many ko threats for one player.

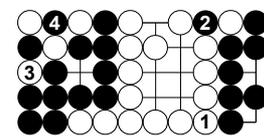
Variation 2.1: Black makes the first pass. The score is 27 - 23 = 4.



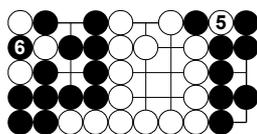
2 pass.  
Variation 2.2  
correct



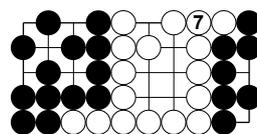
7 pass, 8 pass.  
(continuation)  
score = 4



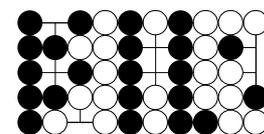
Variation 2.3  
correct



(continuation)



8 pass, 9 pass.  
(continuation)



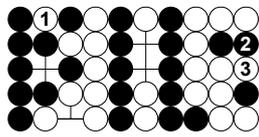
Example 3

Variation 2.2: White cannot kill Black on the left. After Black 4, White may not recapture immediately as that would recreate the position before 4. Black makes the first pass. The score is 27

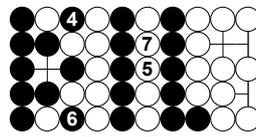
- 23 = 4.

Variation 2.3: Black cannot win the endgame ko because White has, as the saying goes, arbitrarily many ko threats in the double ko death on the left. Black makes the first pass. The score is  $27 - 23 = 4$ .

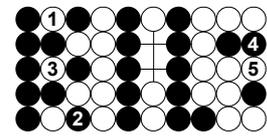
Note: One of the nadare josekis leads to a double ko death and such also becomes a supply of arbitrarily many ko threats for only one player already during the middle game.



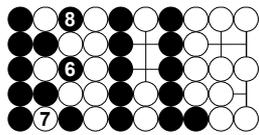
Variation 3.1  
correct



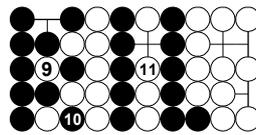
8 pass, 9 pass.  
(continuation)  
score = 0



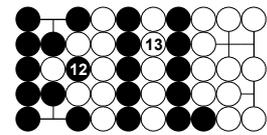
Variation 3.2  
correct



(continuation)



(continuation)



14 pass, 15 pass.  
(continuation)  
score = 0

Example 3: A basic triple ko is fought quite like an ordinary ko fight.

Variation 3.1: After one play in the triple ko, the opponent plays a ko threat elsewhere. Etc. Black makes the first pass. The score is  $25 - 25 = 0$ .

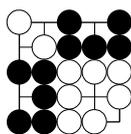
Variation 3.2: After three plays in the triple ko, a ko threat is made elsewhere. After its answer, five plays are made in the triple ko before a ko threat is made elsewhere. Black makes the first pass. The score is  $25 - 25 = 0$ .

Notes: It is equivalent to make a succession of either one, three, or five plays in the triple ko before the next ko threat. It is equivalent because, in all these three cases, the same player has to make the next ko threat. Five successive ko stone captures in the triple ko is the maximum. A 6th is not allowed: It would either recreate the position 2 plays ago or the position 6 plays ago. This is prohibited by the positional superko rule. Players experienced with triple ko would choose the simplest option: just one ko capture in the triple ko, then ko threat and answer, etc. So although a triple ko occurs in only, say, every 5,000th game, it is easy to find the correct strategy by remembering that a triple ko behaves quite like an ordinary ko fight.

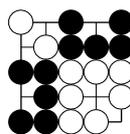
## Asymmetrical Sekis

There is territory in sekis.

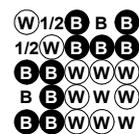
This is relevant in so called asymmetrical sekis, where one player encloses more empty intersections than the opponent does.



Example 1



1 pass, 2 pass.



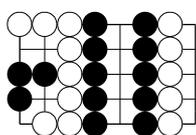
score = 0

Example 1: White makes the first pass. Let us calculate each player's score on the board as stones + surrounded empty intersections + half the not surrounded intersections, as the World Mind Sports Games 2008 Rules suggest. The score is  $10 + 2 + 2/2 - 9 - 2 - 2/2 - 1 = 0$ . Note that Black's territory does score. The rules do not distinguish between territory adjacent to independently alive stones and

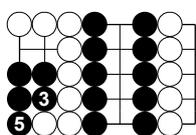
territory adjacent to seki stones.

## 1-sided Dame

The value of each 1-sided dame is 1 point for the player occupying it.



Example 1

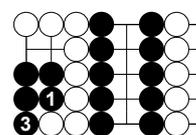


① pass, ② pass, ④ pass,

⑥ pass, ⑦ pass.

Variation 1.1

correct; score = 2



② pass, ④ pass, ⑤ pass.

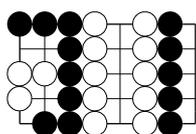
Variation 1.2

mistake; score = 1

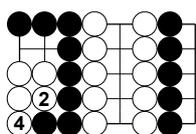
Example 1: There are two 1-sided dame for Black.

Variation 1.1: The 1-sided dame do not run away. Therefore Black makes the first pass, which has a miai value of 0.5. After the first succession of two passes, the players should disagree about which stones to remove (e.g., Black might claim that all white stones on the left should be removed and White would disagree). Thereby Black is enabled to resume alternate moves. With Black 3 and 5, Black gains the 2 excess points. The score is  $20 - 18 = 2$ .

Variation 1.2: Greedily Black takes the biggest points first and forgets to take all the still available points. With White 2, White also gets a move of value: White makes the first pass. The score is  $20 - 18 - 1 = 1$ .



Example 2



① pass, ③ pass, ⑤ pass,

⑥ pass.

correct; score = -2

Example 2: There are two 1-sided dame for White. Black makes the first pass. Since it is White who wants to occupy 1-sided dame, an intermediate first succession of two passes does not need to occur. The score is  $18 - 20 = -2$ .

Notes: Under the Simplified World Mind Sports Games Rules, 1-sided dame do not create a rules problem. However, under the (early versions of the) World Mind Sports Games 2008 Rules, it is ambiguous whether 1-sided dame are "contestable points", which may not be taken during resumed alternate moves after the first succession of two passes and the agreement-disagreement-phase; then Example 1 would behave differently from Example 2. In the author's opinion, the World Mind Sports Games 2008 Rules ought to abandon such ambiguity by dropping the superfluous concept of "contestable points" entirely. Just to be sure, not the first pass of value but the "contestable points" concept is the cause of the problem.