

Game 49 – Handball Match

In a handball match, exactly three players—Henry, Julio and Katrina—will be on Team 1 and exactly three players—Renee, Sing and Tucker—will be on Team 2. Each team has exactly three positions—forward, guard and middle—which will each be played by exactly one player in each match. After each match, the players on each team switch positions according to one of the following statements:

Switch 1: The forward on each team switches with the guard.

Switch 2: The guard on each team switches with the middle.

Switch 3: Julio switches with Katrina and Renee switches with Tucker.

- Which one of the following could be true?
 - Katrina plays guard in matches 1 and 2.
 - Julio plays forward in matches 1 and 2.
 - Tucker plays guard in matches 1 and 2.
 - Henry plays forward in match 1 and middle in match 2.
 - Sing plays middle in match 1 and forward in match 2.
- If the same player on each team plays forward for matches 1 and 2, which one of the following must be true?
 - Either Renee or Tucker plays guard in one of the matches.
 - Either Julio or Katrina plays forward in one of the matches.
 - If Sing plays guard in match 1, Tucker plays guard in match 2.
 - If Tucker plays guard in match 1, Tucker plays middle in match 2.
 - If Julio plays middle in match 1, Henry plays middle in match 2.
- If Renee plays the same position in matches 1 and 2, which one of the following could be true?
 - Henry plays guard in matches 1 and 2.
 - Katrina plays forward in matches 1 and 2.
 - Renee plays guard in matches 1 and 2.
 - Tucker plays forward in match 1 and Sing plays middle in match 2.
 - Sing plays middle in match 1 and Tucker plays forward in match 2.
- Which one of the following CANNOT be true?
 - Renee plays forward in match 1 and guard in match 2.
 - Tucker plays middle in match 1 and forward in match 2.
 - Julio plays forward in match 1 and middle in match 2.
 - Henry plays forward in match 1 and guard in match 2.
 - Sing plays forward in match 1 and middle in match 2.
- Which one of the following could be true?
 - Renee and Katrina both play guard in two consecutive matches.
 - Tucker and Julio both play guard in two consecutive matches.
 - Sing and Henry both play forward in match 1 and middle in match 2.
 - Sing and Henry both play middle in match 1 and guard in match 2.
 - Sing and Henry play middle in match 2 and forward in match 3.
- If Tucker plays forward in matches 1 and 3 but not in match 2, which one of the following must be true?
 - Julio switches with Katrina after at least one match.
 - Julio does not switch with Henry after either match 1 or 2.
 - Tucker does not switch with Sing after either match 1 or 2.
 - Renee does not switch with Sing after either match 1 or 2.
 - Katrina does not switch with Henry after either match 1 or 2.

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1. B
2. A
3. B
4. E
5. D
6. D

This is a time conversion game. Getting it right requires predicting and backtracking the permutations.

For Question 1, A and C are incorrect because no matter what Katrina and Tucker (under switch 3) or the player playing guard must switch. Likewise, D and E are incorrect because neither Henry nor Sing can switch directly from forward to middle under any of the permutations.

On Question 2, if the same player plays forward for two matches, this means that either switch 2 or switch 3 is employed after the first match. This means that either way, the guard and the middle will switch, and two of the three players will play guard.

For Question 3, if Renee doesn't switch, it means either the first or second switch is utilized—thus Renee is playing either forward or middle, since the guard will inevitably switch. Thus, neither Renee nor Henry can play guard for two matches, because the guard must switch; likewise, Tucker and Sing cannot play forward and middle in either match 1 or 2 because these two and not Renee must switch, and there is no way for the forward and middle to switch.

Question 4 is E because there is no way for Sing to switch from forward to middle. While Julio can by switching with Katrina, Sing can only switch positions, and there is no position switch from forward to middle.

Question 5 is partly based on this same inference—that the middle and the forward cannot switch. A and B are incorrect because no matter what, either the guard or the person playing it must switch. Likewise, Sing and Henry can't switch from forward to middle, but they can switch from middle to guard.

On Question 6, Renee can't switch with Sing because Tucker has to switch both after match 1 and match 2. This means Renee either stays put or switches with Tucker, since only two players are switching each time.