FIBA World Ranking Girls
Detailed Examples

Examples of Method Stage 1

1. When Australia beat Mali in the Semi-Final of the FIBA U19 World Cup 2021, the basis points (BP) awarded for this game were 700 to Australia and 300 to Mali due to Australia's 12-point margin of victory (62-50). Pre-game, Mali were ranked #17, with an average ranking of 51.5 across all teams (according to the ranking's new system). Therefore, this gives an opposition ranking points (ORP) of 1.5 x (51.5 - 17) = 1.5 x 34.5 = 51.75. The scaling factor (SF) for the match was 1 because it was not a FIBA Oceania Cup or FIBA Asia Cup Division B or FIBA EuroBasket Division B or C game. Therefore, the final rating points (RP) for Australia from this game are: **RP= SF x (BP + ORP) = 1 x (700 + 51.75) = 751.75**. Mali obtained 300 basis points because they lost by 6 points. Australia were ranked #2 pre-game. This gives an opposition ranking points of 1.5 x (51.5 - 2) = 1.5 x 49.5 = 74.25. Therefore, the final rating points for Mali from this game are: **RP= SF x (BP + ORP) = 1 x (300 + 74.25) = 374.25.**

2. When Slovenia beat Portugal in the FIBA U16 EuroBasket 2019 Division B, the basis points awarded for this game were 700 to the Slovenia and 300 to Portugal due to the Slovenia's 15-point margin of victory (71-56). Pre-game, Portugal were ranked #34, with an average of 55.5 across all teams (according to the ranking's new system). Therefore, this gives an opposition ranking points (ORP) of **1.5 x (55.5 - 33) = 1.5 x 22.5 = 33.75**. Because this was a FIBA EuroBasket Division B game, the scaling factor (SF) is 0.5. Therefore, the final rating points for Slovenia from this game are: **RP= SF x (BP + ORP) = 0.5 x (700 + 33.75) = 366.875**. Portugal obtained 300 basis points because they lost by 15 points. Slovenia were ranked #39 pre-game. This gives an opposition ranking points of 1.5 x (55.5 - 39) = 1.5 x 16.5 = 24.75. Therefore, the final rating points for Portugal from this game are: **RP= BP + ORP = 0.5 x (300 + 21.75) = 162.375**.

3. When Rwanda lost to Mozambique in the First Round of the FIBA U16 AfroBasket 2019, the basis points (BP) awarded for this game were 200 to Rwanda and 800 to Mozambique due to Mozambique's 25-point margin of victory (37-62). Pre-game, Mozambique were ranked #46, with an average ranking of 55.5 across all teams (according to the ranking's new system). Therefore, this gives an opposition ranking points (ORP) of 1.5 x (55.5 - 46) = 1.5 x 9.5 = 14.25. The scaling factor (SF) for the match was 1 because it was not a FIBA Oceania Cup or FIBA Asia Cup Division B or FIBA EuroBasket Division B or C game.

   Therefore, the final rating points (RP) for Rwanda from this game are: **RP= SF x (BP + ORP) = 1 x (200 + 14.25) = 214.25**. Mozambique obtained 800 basis points because they won by 25 points. Rwanda were ranked #56 pre-game. This gives an opposition ranking points of **1.5 x (55.5 - 59) = 1.5 x -3.5 = -5.25**. Therefore, the final rating points for Mozambique from this game are: **RP= SF x (BP + ORP) = 1 x (800 - 5.25) = 794.75.**

Note that in all examples, the opposition ranking points use the rankings according to the new FIBA World Ranking Girls, applied to historical data. This is necessary because the new ranking system ranks more teams than the previous competition-based ranking system, and therefore rankings are needed for all teams.

Examples of Method Stage 2

1. For the Australia v Mali game in the example presented in stage 1 of the calculation, the competition (C) is the FIBA U19 World Cup, so the weight would be C = 2.5, The game is not a Division B or C game and the round (R) is the Semi-Final, so the Division weight (D) = 1 and R = 6 for Australia and R=1 for Mali. The final weight (W) would depend on the date that the new FIBA World Ranking Girls, was being calculated, because the time decay (TD) will change when there are newer occurrences of tournaments. If the rating was being calculated in December 2021, then the game would have been played in the most recent occurrence of that Championship so the time decay would be TD = 1. This would give a weight for Australia from this game of W = TD x C x D x R = 2.5 x 1 x 6 = 15, and for Mali of W = TD x C x D x R = 2.5 x 1 x 1 = 2.5

2. For the Slovenia v Portugal game in the example presented in stage 1 of the calculation, the competition (C) is the FIBA U16 EuroBasket, so the weight would be C = 1. The game is a Division B game which means the round (R) factor is fixed at 1 for both teams, so the Division weight (D) = 0.5 and R = 1. The final weight (W) would depend on the date that the new FIBA World Ranking Girls, was being calculated, because the time decay (TD) will change when new instances of the Championship were played. If the rating was being calculated in December 2019, then the game would have been played in the most recent occurrence of that tournament, so the time decay would be TD = 1. This would give a weight for this game of W = TD x C x D x R = 1 x 1 x 0.5 x 1 = 0.5 for both teams.

3. For the Rwanda v Mozambique game in the example presented in stage 1 of the calculation, the competition (C) is the FIBA U16 AfroBasket 2019 so the weight would be C = 0.35. The game is not a Division B or C game and the round (R) is the first round, so the Division weight (D) = 1 and R = 1 for both teams. The final weight (W) would depend on the date that the new FIBA World Ranking Girls, was being calculated, because the time decay (TD) will change when new instances of the Championship were played. If the rating was being calculated in December 2021, then the game would be in the second most recent FIBA U16 AmeriCup, so the time decay would be TD = 0.5. This would give a weight for this game of W = TD x C x S x R = 0.5 x 0.35 x 1 x 2= 0.35 for both teams.

To calculate the final **team ratings** the penalized weighting is calculated as:

$$\frac{\Sigma i \; RPi \times Wi}{max(K, \Sigma i \; Wi)}$$

Where the Greek symbol Σ denotes a sum which is over all the historical games (indexed by i) played by the team in contributing Championships and for each game i,

RP*i* = Rating points for game i

W*i* = Weight of game i

The constant **K** is a mathematical penalty term that ensures that teams who have played few games are not ranked too highly because of small sample size.

To calculate the new FIBA World Ranking Girls, we then simply rank the teams according to the team ratings calculated above.