

Specification for IOF MTB Orienteering World Ranking Events in 2013

The World Ranking overall score of a rider is calculated as the sum of the best four weighted race points scores for the twelve calendar months up to and including the current event. The score achieved by a rider on a World Ranking Event is calculated based on the formula as detailed below.

The formula to be used for ranking takes into account (a) strength of field at each event and (b) differing spreads of times at different events and is given by:

$$RP = (MP + SP \times (MT - RT)/ST) \times IP$$

where the number of ranked riders is 20 or more.

There must be at least 3 ranked riders in order for the race to qualify for the World Ranking scheme.

A *ranked rider* is defined as one who has scored World Ranking points in the 12 months before the event **and** whose average points score is greater than or equal to 600 and who finishes within the winner's time plus 50%. Only non-zero scores are used for the average calculation.

Calculate the mean *MP* and the standard deviation *SP* of the average unweighted (i.e. for $IP=1.00$) ranking points of all ranked runners

Calculate the mean *MT* and the standard deviation *ST* of the times of all ranked runners.

Using *RT*, each runner's race time, finally calculate *RP*, the race points for each competitor at the event.

IP is a factor which currently equals 1.00 for all races.

Example

Suppose X comes 4th in a race in a time of 88 minutes (*RT*); the average time for the ranked riders in the race is 100 minutes (*MT*) and the standard deviation of their times is 10 minutes (*ST*)

Thus $(MT - RT)/ST = 12/10$, or 1.2 standard deviations above the average time for the ranked riders in the race

Suppose the quality of the riders is high (mean points (*MP*) = 1100 and standard deviation (*SP*) = 100)

So X gets more points than the average rider, this given by $1.2 \times 100 = 120$
Thus final points = $1100 + 120 = 1220$

If the number of ranked riders *n* is small ($n < 10$), the standard formula must be replaced by the following:

$$RP = (2600 - RT \times (2600 - MP)/MT) \times IP$$

If the number of ranked riders is such that $10 \leq n < 20$ each rider's points is given by a weighted average of the large events points (RP_L , as calculated by the standard formula) and the small events points (RP_S , as calculated above) as follows:

$$RP = (RP_L \times (n - 10)/10 + RP_S \times (20 - n)/10) \times IP$$

There shall be separate lists for men and women based on performances in M/W21E races only.

At the end of each year, both groups of ranked riders (i.e. men and women separately) shall have the points of each rider re-based so that their average points have an overall mean of 1000 and standard deviation of 200.

Women may participate in M21E races, but their scores are considered entirely separately from any scores obtained in W21E.