

# Line Racers

## Rulebook



# Line Racers Rules



## 1. Introduction:

The Robot competition is designed to test the ability of autonomous robots to follow a black line on a white track as quickly as possible. The competition includes both LEGO kits for juniors and NON-LEGO for seniors, ensuring inclusivity across different skill levels.

## 2. Team Composition:

-Team Size : **3 : 5** people guided by a Coach.

-Teams will be divided into two age categories:

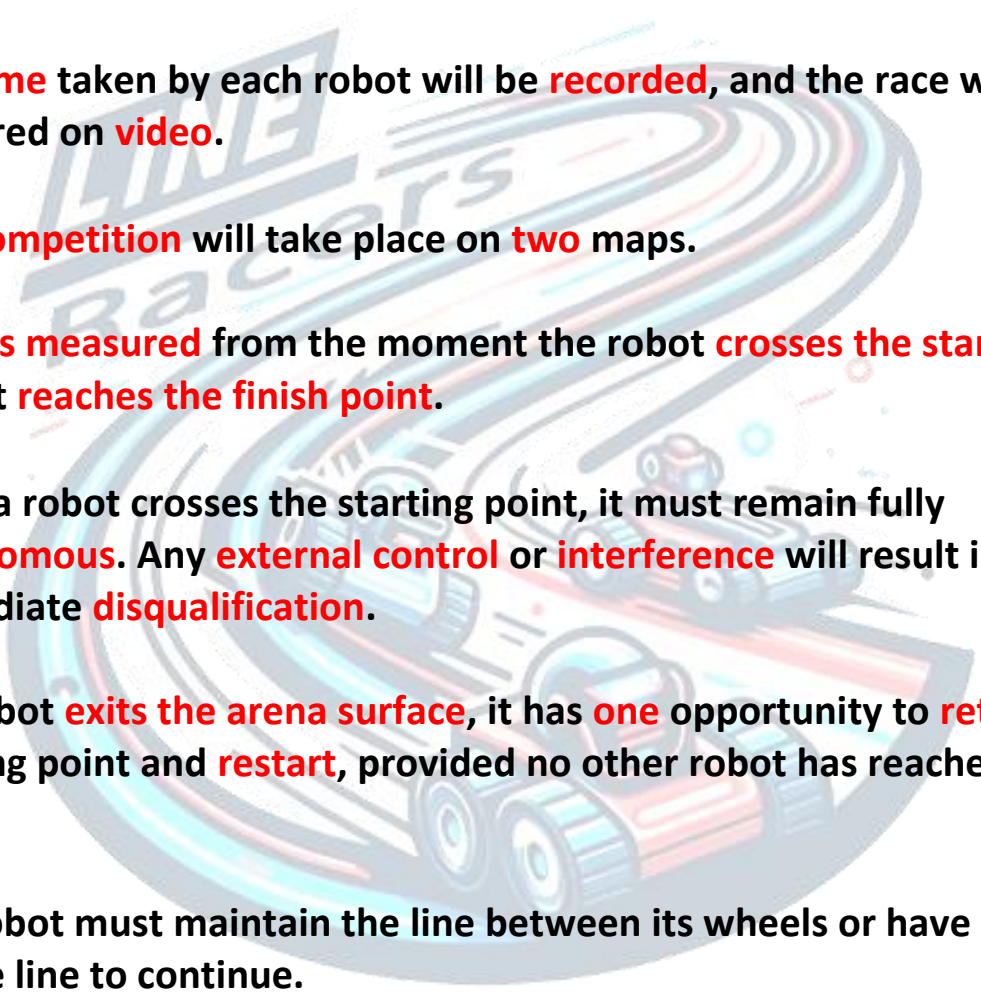
-Junior: Ages **7- 12** years .

-Senior: Ages **13 - 18** years .

## 3. The Robot:

1. All robots must be fully **autonomous**.
2. Maximum robot dimensions: **25 cm x 25 cm x 25 cm** with a weight limit of **3kg**.
3. The robot must not damage the track or pose a threat to spectators.
4. Robots must have a start and stop button.
5. **Additional Requirements for LEGO Robots**
  1. LEGO robots must exclusively use licensed LEGO parts.
  2. Only batteries recommended by LEGO are permitted

## 4. The Competition:

1. **Two robots** will start from **separate starting points** and race along the same course toward a shared finish area. The robot that reaches the finish rectangle first **will be the winner**.
  2. An **additional room** will be **available for sample test** to **calibrate** the robots before the official race begins.
  3. **The time** taken by each robot will be **recorded**, and the race will be captured on **video**.
  4. **The competition** will take place on **two** maps.
  5. **Time is measured** from the moment the robot **crosses the start point** until it **reaches the finish point**.
  6. Once a robot crosses the starting point, it must remain fully **autonomous**. Any **external control** or **interference** will result in immediate **disqualification**.
  7. If a robot **exits the arena surface**, it has **one** opportunity to **return** to the starting point and **restart**, provided no other robot has reached the finish point.
  8. The robot must maintain the line between its wheels or have its sensor on the line to continue.
  9. If a robot leaves the line (**but stays within the arena surface**) and returns to the **same exit point**, it may **continue the round**, as long as no other robot has reached the finish line.
  10. **Only two team members** are allowed on the map during the race, and coaches are **not permitted** to enter.
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## 5. Scoring:

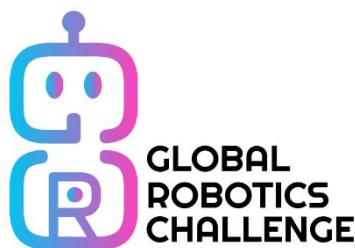
1. **The robot that reaches the finish rectangle first** will be declared the **winner** of the race and will earn **3 points**.
2. In case **both robots reach the finish area at the same time**, the winner will be determined by comparing the recorded times and videos.
3. **If the times are identical and still result in a tie**, the match will be considered a **draw** and each team will receive **1 point**.

## 6. The Field:

1. The competition field is made of **white banner**. with dimensions of **5m x 5m**.
  2. The track will be **mirror closed loop**.
  3. The black line on the track is **1.5 cm** wide, with a **20 cm** free space around the line except in intersections.
  4. Start marked with **20 cm** long and **3 cm** thick. and finish marked with one black rectangle with dimensions of **40cm x 40cm**.
- 5-Sample test:

**To download the playground ready for printing click this link:**

<https://drive.google.com/drive/folders/1I31nXN8HeCL9iild75lvfpSwGO4NwpKd?usp=sharing>



**Good Luck**