

Formula Fun Racing

The Shelly Racing Team need a racing engineer. Your task is to work with their drivers, planning perfect driving lines for race tracks.

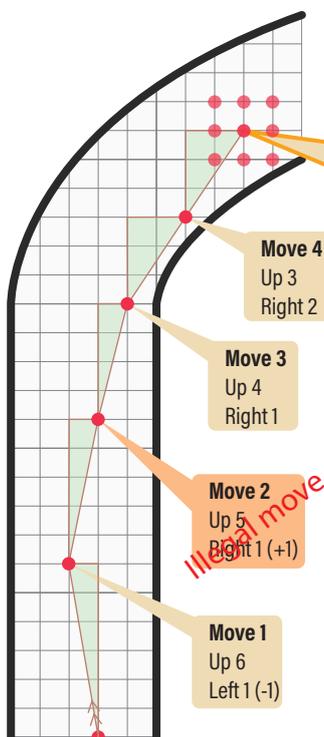
Where does the driver begin braking? Where is the ultimate apex for each corner? Can you help?

Rules

1. Each move represents 1 second and is made up of a vertical component and a horizontal component. Each of these components can be varied by up to 1 space each move.
2. If you rule a straight line from the start of your move to the end of your move, the line must not touch either edge of the race track.
3. You must start from the yellow line with a first move of 1 space, except for rolling starts. For a rolling start, use the previous moves as shown on the track.

Example

In the diagram below the car moved up 6 spaces and left 1 space in Move 1. Move 2 is illegal because the car can move up 5 spaces but can't change from left 1, to right 1 which is a change of 2.



In Move 3, the car then moves up 4 spaces (1 less than before) and right 1 space (the same as before).

Move 5

The 9 red options for move 5 are based around the centre option that represents a 'same again' move, that is, Up 3 and Right 2.

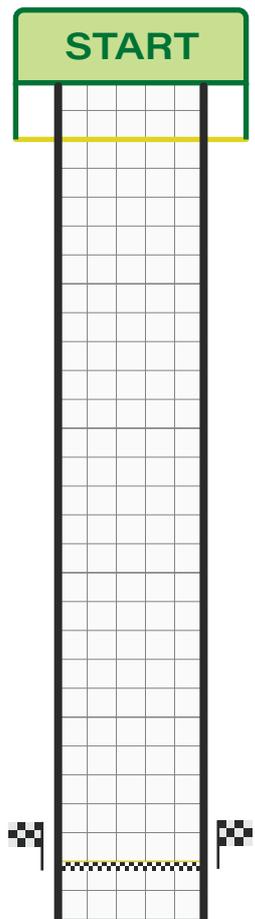
A simple way to show what is legal is to lightly mark the spot that repeating the last move would take you to. Your 9 choices include that spot, as well as the 8 spots surrounding that spot. See Move 5 as an example.

The number of moves taken represents your time in seconds. Count every move from the start line including the move that takes you to, or across, the finish line. Each Track includes an A to E grade based on your time. See the back page to convert these to Driver Ratings.

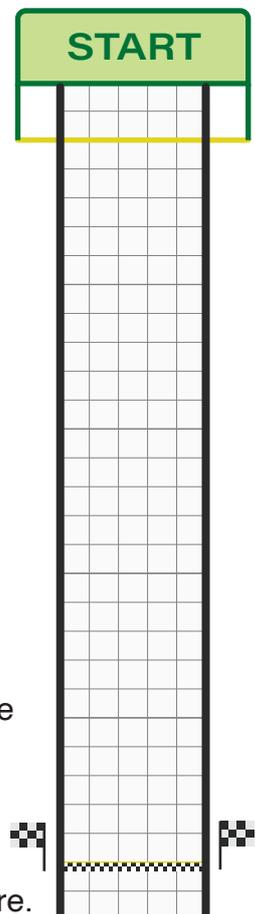
Challenge 1 Starting at rest on the yellow line, accelerate down the track, crossing the chequered line as quickly as you can. What is the fastest time you can achieve? A = 7 s, B = 8 s, C = 9 s, D = 10 s or more.

Challenge 2 Starting at rest on the yellow line, accelerate down the track before slowing down to a stop right on the chequered line. What is the fastest time you can achieve? A = 9 s, B = 10 s, C = 11 s, D = 12 s or more.

1



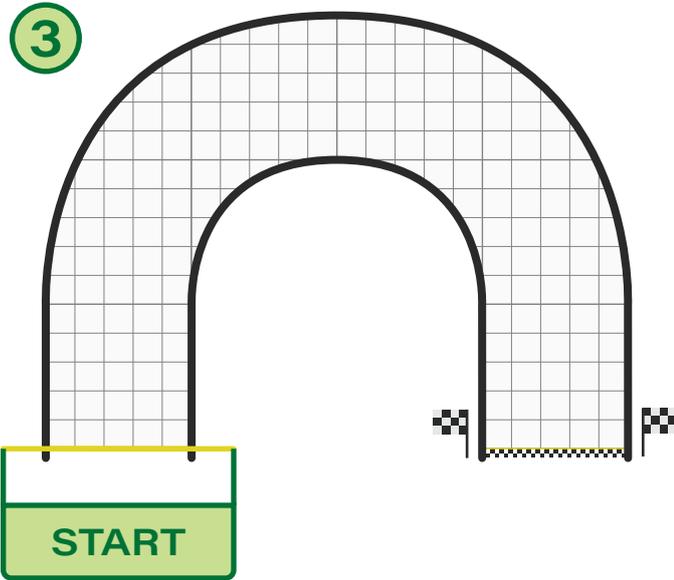
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Challenge 3 Starting at rest on one of the four allowed points on the yellow line, race around the bend, crossing the finish line as quickly as you can.

What is the fastest time you can achieve?

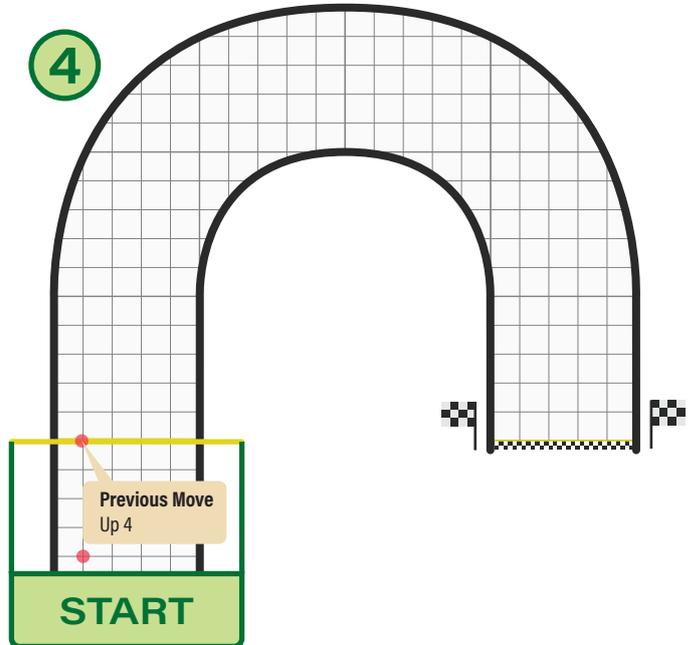
A = 12 s, B = 13 s, C = 14 s, D = 15 s or more, E = Includes an illegal move.



Challenge 4 Using the rolling start shown, race around the bend, crossing the finish line as quickly as you can.

What is the fastest time you can achieve?

A = 11 s, B = 12 s, C = 13 s, D = 14 s or more, E = Includes an illegal move.



Challenge 5 Starting at rest on one of the four allowed points along the chequered start/finish line, race around the circle as fast as you can.

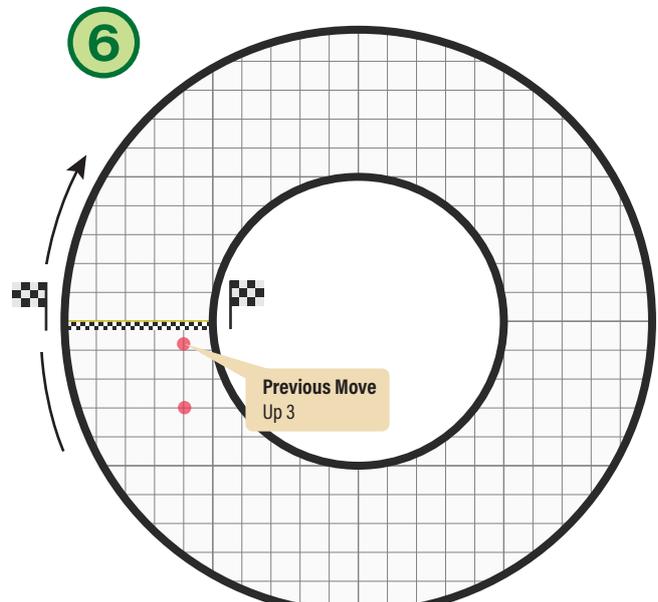
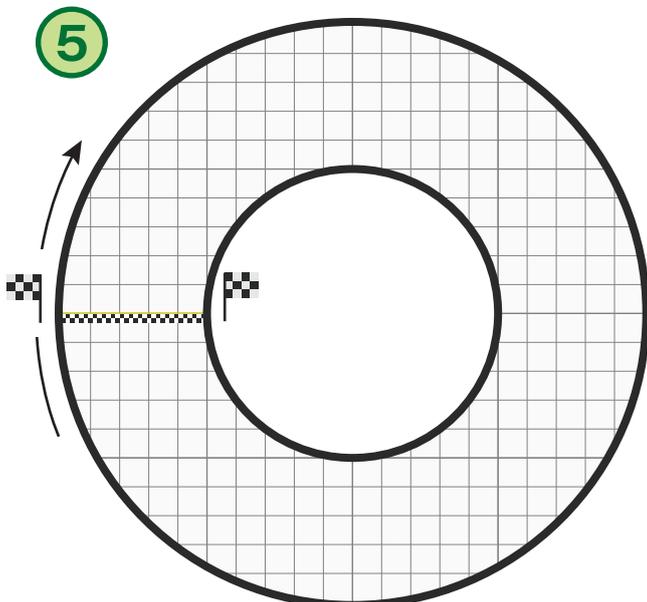
What is the fastest lap time you can achieve?

A = 15 s, B = 16 s or 17 s, C = 18 s to 20 s, D = 21 s or more, E = Includes illegal move.

Challenge 6 Using the rolling start shown, complete one lap around the circle, crossing the start/finish line as quickly as you can.

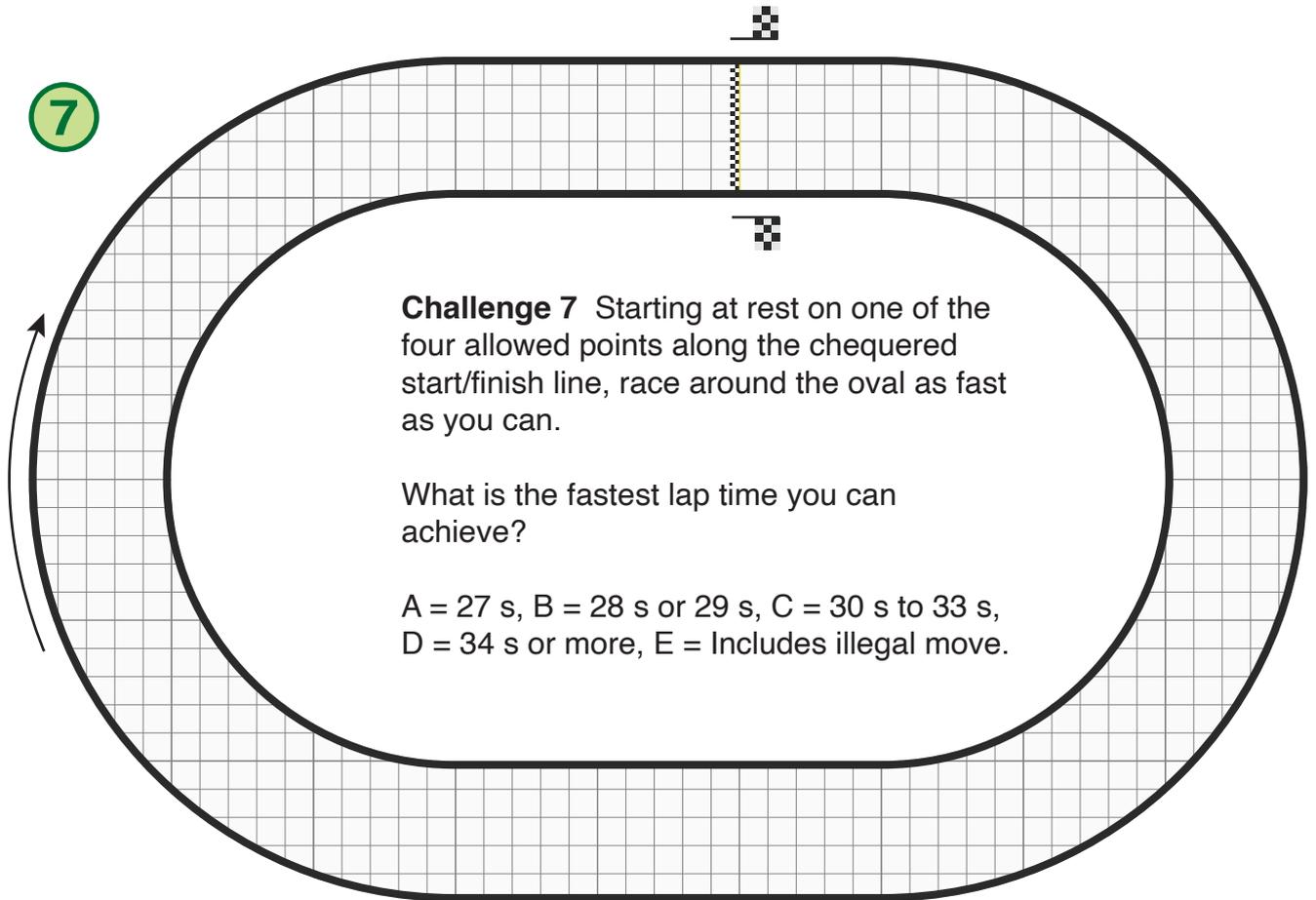
What is the fastest lap time you can achieve?

A = 14 s, B = 15 s or 16 s, C = 17 s to 19 s, D = 20 s or more, E = Includes illegal move.



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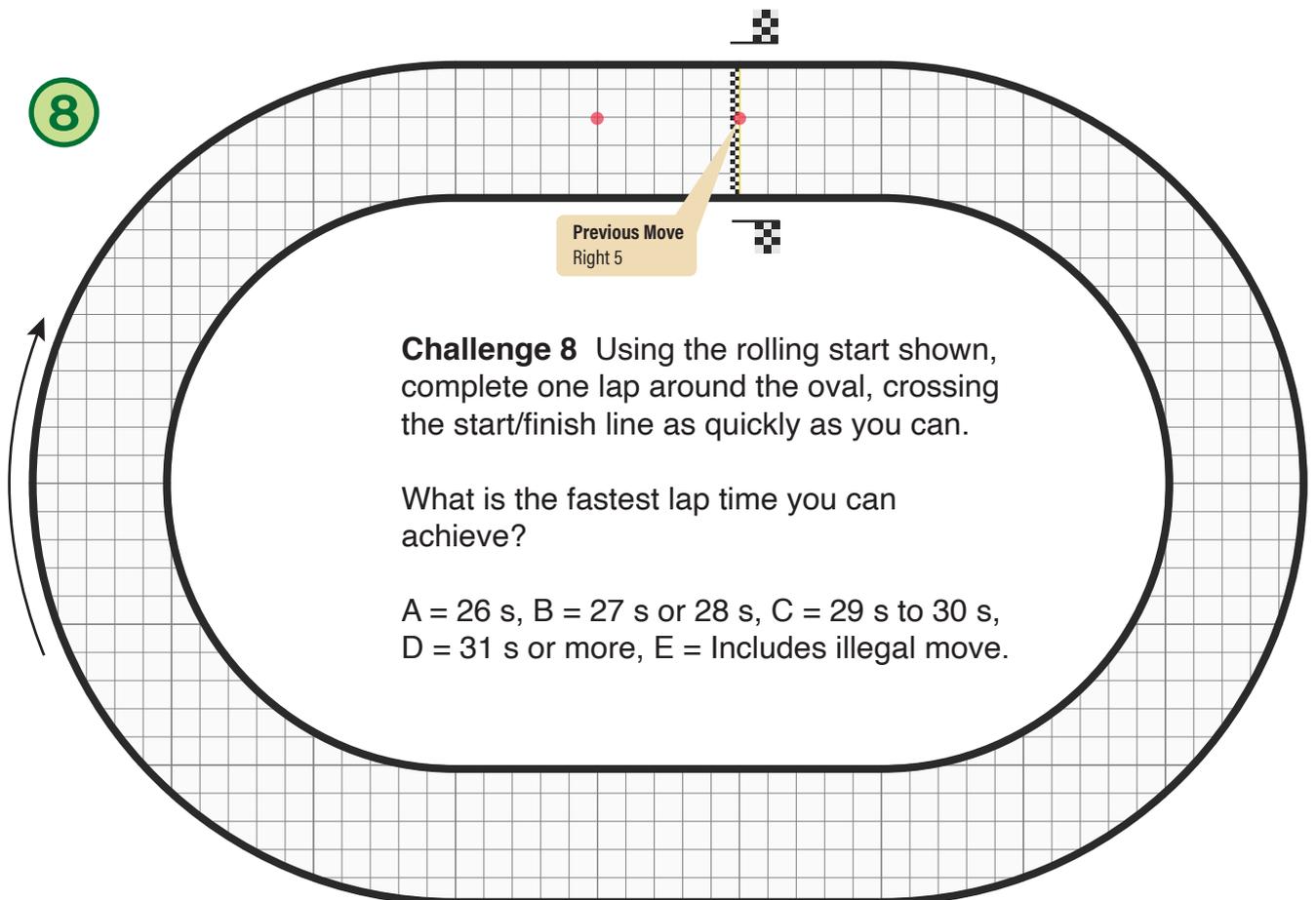


Challenge 7 Starting at rest on one of the four allowed points along the chequered start/finish line, race around the oval as fast as you can.

What is the fastest lap time you can achieve?

A = 27 s, B = 28 s or 29 s, C = 30 s to 33 s,
D = 34 s or more, E = Includes illegal move.

8



Previous Move
Right 5

Challenge 8 Using the rolling start shown, complete one lap around the oval, crossing the start/finish line as quickly as you can.

What is the fastest lap time you can achieve?

A = 26 s, B = 27 s or 28 s, C = 29 s to 30 s,
D = 31 s or more, E = Includes illegal move.