Mark:H Rohan:D Switch

Judge View | Tree View | List of Debates | Hide notes | Side: None | Phase: **Make Argument** Remaining: **10:00**

At root

0 Q (H): A train is coasting around a large circular track. It is then switched to a smaller circular track. How does its speed change? Assume no friction.

H: The speed slightly decreases

D: The speed increases

Notes:

Q: Does the energy of the train change?

H: No

D: Yes

2 Payment: H D None Recurse

Notes:

Q: Is the angular momentum conserved?

H: Probably not

D: Probably

1 Payment: H D None Recurse

Notes:

Q: If the energy of the train doesn't change, does the speed of the train decrease slightly?

H: Yes

D: Yes

3 Payment: H D None Recurse

Notes:

Q: Does the moment of inertia decrease?

H: Yes

D: Yes

5 Payment: H D None Recurse

Notes:

Q: Meta-debate: Given the questions and answers in this round, which is the better answer to the question?

H: The speed slightly decreases

D: The speed increases

4 Payment: H D None Recurse

Notes:

Q: If the moment of inertia decreases, does that mean the speed increases?

H: Under certain conditions

D: Yes

6 Payment: H D None Recurse

Notes:

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8 To: 1 .question

H: By "angular momentum" do you mean the angular momentum of the train around the center of the track?

D: Yes

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9 To: 5 .question

H: By moment of inertia do you mean the moment of inertia of the train, equal to the integral of ML^2

D: Yes, if M is the mass of the train and L is the length from the centre to the train

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10 To: 6 .answer honest

D: By 'under certain conditions', do you mean if angular momentum is conserved?

H: That is one of the conditions; another condition is that the radius of rotation remains the same.