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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.

The speed slightly decreases

The speed increases

2

Does the energy of the train change?

No

Yes

17

Can a force do work on the train?

In theory, but the particular force the train experiences does not do work on the train.

Yes

24

In the problem, does the train experience a force that does work on the train?

No

Yes

38

If the force does not act over any distance, then according to the definition established in 24, can work be done?

No

Yes

41

At some point along the motion, is there a force that acts in a manner that is not perpendicular to the net displacement?

Yes

Yes

55

Do the debaters agree that the instantaneous force acting on the train is perpendicular to the instantaneous displacement?

Yes

Maybe, has not been proven