0 Question: 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.

A1: It stays the same

A2: It decreases slightly

Arguments for A1

6 Question: If certain types of energy are conserved, then does the speed remain the same?

A1: Yes

A2: Depends on the type of energy; if translational kinetic energy is conserved, then yes; however, it is not conserved.

8 Question: Are those types of energy approximately conserved?

A1: Yes

A2: Depends on the type of energy; kinetic energy is conserved

Arguments for A2

4 Question: Is the kinetic energy of the train conserved?

A1: No

A2: Yes

5 Question: If kinetic energy is conserved, does the speed decrease slightly?

A1: Yes

A2: Yes