Noah Vale, adventurer, lover, physics fan, and all-around great guy is out on a walk when he notices that his girlfriend, the youngish Miss Ella Mentary, has been kidnapped by his arch-enemy Rotcod Dum. He is holding the trussed up Ella in a wagon at the top of a 200.0 m long hill that is 51.8 m high. (Diagram below.)

Rotcod releases the wagon, which has a mass of 10.00 kg, and Ella, with her 50.0 kg mass, and they accelerate down the hill. There is a coefficient of friction between the wagon and the hill of 0.100. The problem, as shown in the diagram below, is that there is a cliff only 100.0 m away from the bottom of the hill. Can Noah stop the wagon and Ella before she falls to a very messy end?

At the bottom of the hill Noah leaps into the wagon adding his 60.0 kg mass to the total. By dragging his feet Noah can increase the coefficient of friction to 0.330. Will this be enough force to stop the wagon and keep their love alive? Or will Noah and Ella be taking the plunge?