

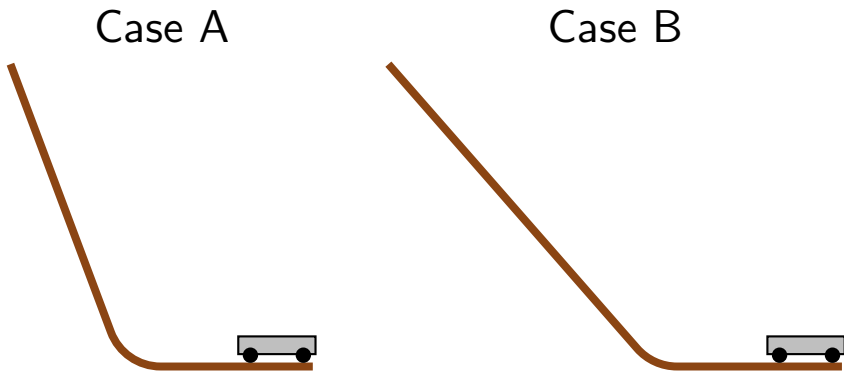
Warm Up Question 1

Two straight slides in a playground each start at the same height and both end at the ground. One is much steeper than the other. Your aim is to reach the bottom of the slide with the fastest possible speed, starting from rest at the top and not pushing yourself as you descend. If friction and air resistance were completely absent, which slide would result in the fastest speed by the time you reach the bottom? Explain your choice.

1. Same. Same energies.
2. Faster for steeper slide. Shorter distance.
3. Faster for steeper slide. Larger acceleration.

Question 1

Two identical carts approach ramps with the same speed. The ramps have different slopes.



Which of the following is true about the maximum height reached by each cart?

1. Same.
2. Larger for A.
3. Larger for B.

Warm Up Question 2

A block on a horizontal frictionless surface is pushed against a spring, compressing the spring. Is the work done by the spring zero, positive or negative while the spring is being compressed? Explain your answer.

1. Zero.
2. Negative. Force and displacement are opposite.
3. Positive. Force and displacement are in the same direction.
4. Positive. Block does negative work, spring positive.