

2. A 35-kg child jumping on a trampoline reaches a maximum height 1.5 meters above the surface. Upon landing on the surface of the trampoline, the trampoline fabric stretches, allowing the child to come to a stop within 12 centimeters. What is the average upward force exerted on the child by the surface of the trampoline?

3. A 12-gram bullet is fired into a stationary 1.5-kg wooden block and emerges from the block with a speed of 48 m/s. After the bullet strikes the block, the block slides along a rough surface for 2.1 meters before coming to a stop. The coefficient of kinetic friction between the block and surface is 0.33. What was the initial speed of the bullet?

Quiz #6B

Clearly indicate (with a box) your answers to the following questions. SHOW ALL WORK.

1. Two cars of equal mass collide at an intersection, and the subsequent wreckage moves as one object. The speed of car A is 41 m/s in a direction 65° North of East, and the speed of car B is 47 m/s due East. What is the magnitude and direction of the velocity of the wreckage immediately after the collision.