

Physics 10154 - Quiz 4A

Mass A (7.0 kg) and Mass B (5.5 kg) are connected by a thin string as shown below. Mass A is on a ramp inclined 28° above the horizontal while B is on a horizontal surface. Both surfaces are frictionless. An applied force of 47 N is directed up the ramp, causing the mass A to slide up the ramp and mass B to slide to the left as the string stays taut, ensuring both masses move with the same speed and acceleration.

Find (a) the value of the acceleration felt by mass A and (b) the tension in the string connecting the two masses.

