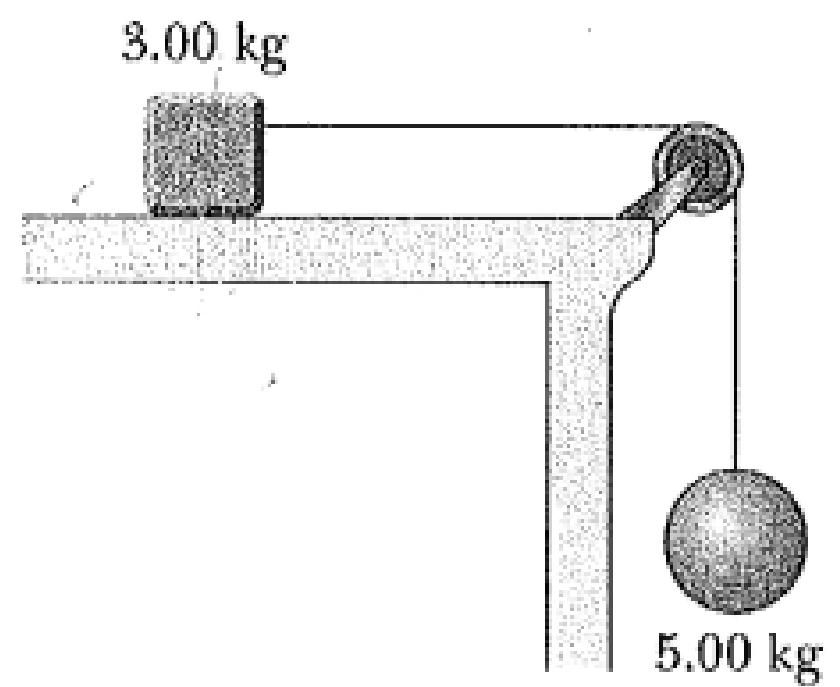


PHY 2048

Final Week Practice

1. A rock is thrown upward from the level ground in such a way that the maximum height of its flight is equal to its horizontal range d . (a) At what angle θ is the rock thrown?

2. The coefficient of friction between the 3.00-kg block and the surface in Figure is 0.400. The system starts from rest. What is the speed of the 5.00-kg ball when it has fallen 1.50 m?



3. A proton, moving with a velocity of $v_i \hat{i}$, collides elastically with another proton that is initially at rest. If the two protons have equal speeds after the collision, find (a) the speed of each proton after the collision in terms of v_i and (b) the direction of the velocity vectors after the collision.

