89. We note that if the larger mass ($M = 2$ kg) falls $d = 0.25$ m, then the smaller mass ($m = 1$ kg) must increase its height by $h = d \sin 30°$. Thus, by mechanical energy conservation, the kinetic energy of the system is

$$K_{\text{total}} = Mgd - mgh = 3.7 \text{ J} \ .$$