75. The initial velocity has magnitude v_0 and because it is horizontal, it is equal to v_x the horizontal component of velocity at impact. Thus, the speed at impact is

$$\sqrt{v_0^2 + v_y^2} = 3v_0 \quad \text{where} \quad v_y = \sqrt{2gh}$$

where we use Eq. 2-16 with Δx replaced with the $h = 20$ m to obtain that second equality. Squaring both sides of the first equality and substituting from the second, we find

$$v_0^2 + 2gh = (3v_0)^2$$

which leads to $gh = 4v_0^2$ and therefore to $v_0 = \sqrt{(9.8)(20)}/2 = 7.0$ m/s.