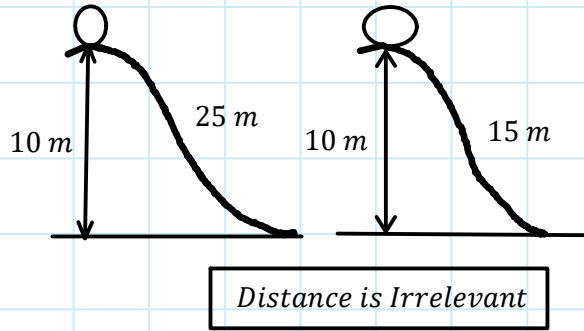


P11 - 6.3 - Slide Energy Notes

A Ball, initially at Rest, rolls down a 10m high $\mu = 0$ Slide over 25 m. Find "v" at bottom?



$$\cancel{E_{ki}} + E_{pi} = E_{kf} + \cancel{E_{pf}}$$

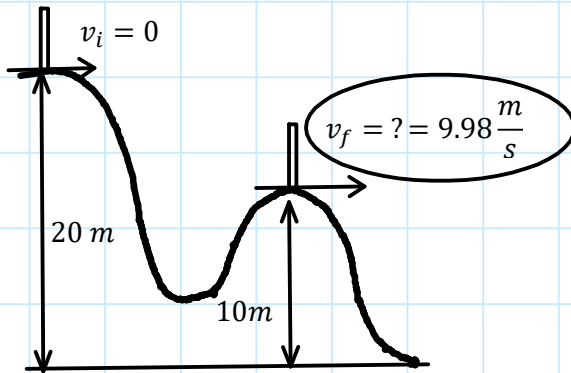
$$\cancel{m}gh_i = \frac{1}{2}\cancel{m}v_f^2$$

$$v_f = \sqrt{2gh}$$

$$v_f = \sqrt{(2)(9.8)(10.1)}$$

$$v_f = 14.1 \frac{m}{s}$$

A 65 kg Skier, initially at Rest, travels down the Mountain 20 m high as shown. What is the Velocity at the Second Hump 10 m high?



$$\cancel{E_{ki}} + E_{pi} = E_{kf} + E_{pf}$$

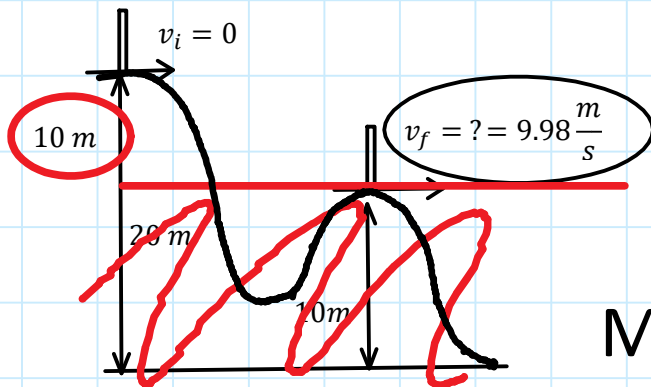
$$\cancel{m}gh_i = \frac{1}{2}\cancel{m}v_f^2 + \cancel{m}gh_f$$

$$v_f = \sqrt{2(gh_i - gh_f)}$$

$$v_f = \sqrt{2((9.8)(20) - (9.8)(10))}$$

$$v_f = 9.98 \frac{m}{s}$$

Or



$$\cancel{E_{ki}} + E_{pi} = E_{kf} + \cancel{E_{pf}}$$

$$\cancel{m}gh_i = \frac{1}{2}\cancel{m}v_f^2$$

$$v_f = \sqrt{2gh}$$

$$v_f = \sqrt{2(9.8)(10)}$$

$$v_f = 9.98 \frac{m}{s}$$

Move the ground up