Quiz 5

A 70 kg skier starts from rest at the top of a 25 meter hill. If friction and air resistance are negligible, what is the speed of the skier at the bottom of the hill?

$$\Delta E_{sys} = 0$$

$$mgh = \frac{1}{2}mv^2$$

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

$$v = \sqrt{2\left(9.8 \frac{m}{s^2}\right)(25\,m)}$$

$$\boxed{v = 22.1 \ m/s}$$