

In this Atwood machine, how fast is the 8 kg block moving when it has dropped to a point 1.20 m below its position when it was at rest?

For the 7 kg mass

$$U_i = 0$$

$$U_f = (7 \text{ kg})(9.8 \text{ N/kg})(1.2 \text{ m})$$

$$K_i = 0$$

$$K_f = \frac{1}{2} (7 \text{ kg}) v^2$$

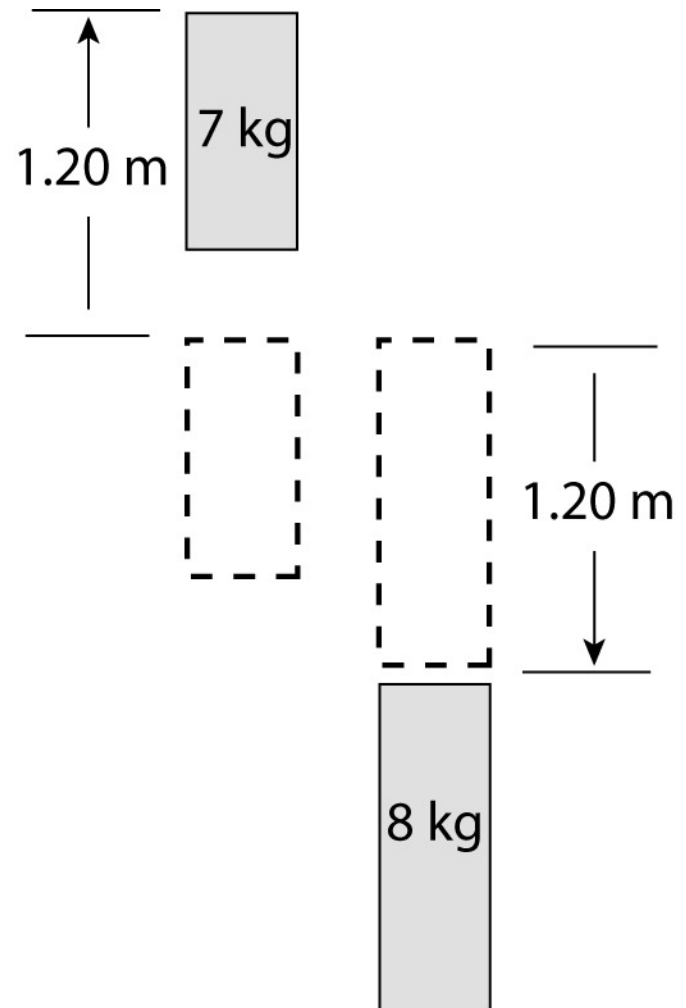
For the 8 kg mass

$$U_i = 0$$

$$U_f = (8 \text{ kg})(9.8 \text{ N/kg})(-1.2 \text{ m})$$

$$K_i = 0$$

$$K_f = \frac{1}{2} (8 \text{ kg}) v^2$$



$$U_{i7} + U_{i8} = U_{f7} + U_{f8} + K_{f7} + K_{f8}$$

and solve for v .