



5. With what speed must a ball be thrown upward at in order to reach a height of 40m and have a final velocity of 0 m/s?
6. A passenger in abandoning a sinking ship steps over the side of a deck that 15m above the water surface. How long will it take the passenger to hit the water? With what speed will he hit the water?
7. A ball thrown downward at 12 m/s from a rooftop of a building takes 2.2 seconds to hit the ground. How high is the building?
8. A stone is thrown vertically downward from a bridge 30.5 m high at an initial velocity of  $-15$  m/s. How long will it take for the stone to hit the water below? What is the rock's vertical velocity as it hits the ground?
9. An astronaut drops a baseball on the moon from a height of .8 m. If  $g_{\text{moon}} = 1.62 \text{ m/s}^2$ , how long does it take to hit the ground?