Practice – 2

Once you feel confident with acceleration, complete problems 1 to 3. Check your answers by going to the Solutions tab in Moodle.

Instructions: Answer each of the following practice questions on a separate piece of paper. Step by step solutions are provided under the Solutions tab. You will learn the material more thoroughly if you complete the questions before checking the answers.

1. A ball is tossed vertically upward at a velocity of $20\ \text{m/s}$. If the ball is released $2\ \text{m}$ above the ground, how high will it rise?

2. On an icy road, a car travelling at $30\ \text{m/s}$ brakes and decelerates at $3\ \text{m/s}^2$. What is the stopping distance of the car?

3. An object is travelling in a straight line. Its acceleration at time t is $a = -2t$. Find the velocity function $v(t)$ and the position function $s(t)$ if at $t = 0$, $v(t) = 2\ \text{m/s}$ and $s(t) = 8\ \text{m}$.