Task. A ball is thrown downward $v = 8$ m/s. What is its speed 4 seconds later?

Solution. Notice that there is a gravitation force acting on the ball, so it moves with constant acceleration $g = 9.8 \ m/s^2$. Therefore the speed of the ball after t seconds is given by the formula:

$$v(t) = v_0 + gt,$$

where $v_0 = 8 \ m/s$ is the initial velocity.

We should compute $v(4 \ s)$. Substituting values we get:

$$v(4) = v_0 + gt = 8 + 9.8 * 4 = 47.2 \ m/s.$$

Answer. $v = 47.2 \ m/s$.