2-8 There are many ways to solve the problem. One way is to use symmetry, in which we would see that the projectile will strike the surface with its downward velocity equal in magnitude to the initial upward component of the velocity. For the vertical component, we'd write $v_{fy} = v_{0y} + at$ and use symmetry to get $-v_{0y} = v_{0y} + at$. With $a = -g$, we get $2\,v_{0y} = gt$ or $t = 2\,v_{0y}/g = 2\,v_0 \sin\theta / g = 2 \times 9.8$ [m/s] $\times$ (0.5) / 9.8 [m/s^2] = 1 s. You can also ask the question how long would it take for the object to come back to the same height $\Delta y = 0$? Thus $\Delta y = 0 = v_{0y}t - \frac{1}{2} gt^2$. Solving we get the solution $t = 0$ *or* $t = v_{0y} / (\frac{1}{2} g) = 9.8$ [m/s] $\times$ (0.5) / ((0.5) $\times$ 9.8 [m/s^2]) = 1 s. Thus (B) is the correct answer.