

64. We define the “effective gravity” in his environment as  $g = 220/60 = 3.67 \text{ m/s}^2$ . Thus, using equations from Chapter 2 (and selecting downwards as the positive direction), we find the the “fall-time” to be

$$\Delta y = v_0 t + \frac{1}{2} a t^2 \quad \Rightarrow \quad t = \sqrt{\frac{2(2.1)}{3.67}} = 1.1 \text{ s} .$$