67. (a) Since the performer returns to the original level, Eq. 4-26 applies. With $R = 4.0$ m and $\theta_0 = 30°$, the initial speed (for the projectile motion) is consequently

$$v_0 = \sqrt{\frac{gR}{\sin 2\theta_0}} = 6.7 \text{ m/s} .$$

This is, of course, the final speed v for the Air Ramp's acceleration process (for which the initial speed is taken to be zero) Then, for that process, Eq. 2-11 leads to

$$a = \frac{v}{t} = \frac{6.7}{0.25} = 27 \text{ m/s}^2 .$$

We express this as a multiple of g by setting up a ratio: $a = (27/9.8)g = 2.7g$.

(b) Repeating the above steps for $R = 12$ m, $t = 0.29$ s and $\theta_0 = 45°$ gives $a = 3.8g$.