

4. The textbook notes (in the discussion immediately after Eq. 16-7) that the acceleration amplitude is $a_m = \omega^2 x_m$, where ω is the angular frequency ($\omega = 2\pi f$ since there are 2π radians in one cycle). Therefore, in this circumstance, we obtain

$$a_m = (2\pi(6.60 \text{ Hz}))^2 (0.0220 \text{ m}) = 37.8 \text{ m/s}^2 .$$