

48. **REASONING AND SOLUTION** The bike would travel with the same speed as a point on the wheel $v = r\omega$. It would then travel a distance

$$x = vt = r\omega t = (0.45 \text{ m})(9.1 \text{ rad/s})(35 \text{ min})\left(\frac{60 \text{ s}}{1 \text{ min}}\right) = \boxed{8.6 \times 10^3 \text{ m}}$$