

70. (a) We apply Eq. 11-18, using the subscript J for the Jeep.

$$\omega = \frac{v_J}{r_J} = \frac{114 \text{ km/h}}{0.100 \text{ km}}$$

which yields 1140 rad/h or (dividing by 3600) 0.32 rad/s for the value of the angular speed ω .

- (b) Since the cheetah has the same angular speed, we again apply Eq. 11-18, using the subscript c for the cheetah.

$$v_c = r_c \omega = (92 \text{ m})(1140 \text{ rad/h})$$

which yields $1.05 \times 10^5 \text{ m/h}$ or 105 km/h for the cheetah's speed.