9.63: a) \( v = 60 \) mph = 26.82 m/s
\( r = 12 \) in. = 0.3048 m
\( \omega = \frac{v}{r} = 88.0 \) rad/s = 14.0 rev/s = 840 rpm

b) same \( \omega \) as in part (a) since speedometer reads same
\( r = 15 \) in. = 0.381 m
\( v = r \omega = (0.381 \text{ m})(88.0 \text{ rad/s}) = 33.5 \text{ m/s} = 75 \text{ mph} \)

c) \( v = 50 \) mph = 22.35 m/s
\( r = 10 \) in. = 0.254 m
\( \omega = \frac{v}{r} = 88.0 \) rad/s; this is the same as for 60 mph with correct tires, so speedometer read 60 mph.