

M48C/Schoenbrun Number Format

Provide an in-exact answer to two decimal places

1)  $4.2 \times 6.3$

Provide an in-exact using the proper number of significant figures

2)  $4.2 \times 6.3$

Provide an exact answer

3)  $\frac{27}{6} \cos\left(\frac{\pi}{2}\right)\pi$

Decide what type of answer to provide:

4)  $77 \sin(46^\circ)$

5)  $\frac{24}{7} \pi \left(\frac{21}{3}\right) \sqrt{8}$

M48C/Schoenbrun Appendix 6.1: Linear/Angular Speed

1. A truck with 32-in.-diameter wheels is traveling at 60 mi/h. Find the angular speed of the wheels in rad/min. How many revolutions per minute do the wheels make?

2. Suppose that my daughter sticks a little alien toy on the edge of the blade of a ceiling fan. The ceiling fan is rotating at 30 rpm. What is the little alien's angular speed in radians per second? What is the little alien's linear speed in mph if the fan's blade is 27 inches from the center of the fan to the edge?

3. You are standing on the equator of the earth (radius 3950 miles). What is your linear (ft/sec) and angular speed (degrees/minute)?

4. The restaurant in the Space Needle in Seattle rotates at the rate of one revolution per hour.

a) Through how many radians does it turn in 100 minutes?

b) How long does it take the restaurant to rotate through 4 radians?

c) How far does a person sitting by the window move in 100 minutes if the radius of the restaurant is 21 meters?