

G11_Angular displacement & Angular velocity

A. Convert the following units.

1. $120^\circ \rightarrow$ radians

2. $135^\circ \rightarrow$ radians

3. $150^\circ \rightarrow$ radians

4. 1.2 radians \rightarrow degree

5. 3.0 radians \rightarrow degree

6. $\frac{2\pi}{3}$ radians \rightarrow degree

B. Short answer.

1. A tire rotates at a constant 1.5 radians every 0.1 second. What is the tire angular velocity ? rad/s.

If the tire has diameter 80 cm, what is the linear speed velocity ?

cm/s

2. A mass of 1.5 kg moves in a circle of radius 25 cm at 2.0 Hz . Calculate the angular velocity rad/s and linear

velocity m/s