Answer on Question # 43275, Physics, Other

Task:

A 2kg object revolves at 30 rpm uniformly at the radius 0.5kg

A. The angular velocity = 3.14rad/s

B. The centripetal force = 10m/s

C. The angular momentum = 5kg rad/s

D. Only A and B are correct

E. All the above answers are corrects

Solution:

Number of circumferences per minute = 30

The angular velocity $w = 2\pi$ rad/s

The tangential speed = w r = r * 2π

The speed = 20 * 2π * r .

The centripetal force = $mw^2 r$ =0.25 $\pi^2 \approx 2.46$ m/s

L = $mwr = 0.5\pi$

Answer: E. All the above answers are corrects