Q- A space station, in the form of a wheel 120m in diameter, rotates to provide an "artificial gravity" of 3.00m/s^2 for person's who walk around on the inner wall of the outer rim. Find the rate of rotation of the wheel (in revolutions per minute) that will produce this effect.
Here we should discuss angular velocity.
When a body rotates about an axis all its particles moves on a circular path, with different speeds such that the angle turned by every particle is same in the given time interval. Hence rotating bodies' analogues to linear velocity we have introduced angular velocity which is the rate of change of angular displacement. This is denoted by ω and given by

$$\omega = \frac{\Delta\theta}{\Delta t} = \frac{d\theta}{dt}$$

When a particle is moving on a circular path of radius R its angular velocity ω is related to the magnitude of its linear velocity v as

$$\omega = \frac{v}{R} \qquad \text{or} \qquad v = \omega * R$$

In terms of angular velocity the centripetal acceleration is given by $v^2/R = \omega^2 * R$ and the centripetal force is given by $m*v^2/R = m*\omega^2*R$

The units of angular velocity are radians/second, degree/second and sometimes revolutions per sec or revolutions per minutes.

As each revolution is the rotation by 2π radians, we can have a conversion as

1rev/min = 2π radians/min = $2\pi/60$ radians/second.

Now in our problem the angular velocity should be such that the centripetal force required for the person will be given by the normal force of the rim and due to that centripetal acceleration towards the center of wheel should be 3.00 m/s^2 which will make a feel of artificial acceleration due to gravity of 3.00 m/s^2.
Hence if angular velocity of the wheel is ω then the centripetal acceleration a will be given by

$$\omega^2 * R = a$$

Or $\omega^2*(120/2) = 3.00$ [R = D/2]

Or $\omega^2 = 3.00/60 = 1/20$

Or $\omega = \sqrt{\frac{1}{20}} = 0.2236$ rad/sec

Gives $\omega = 0.2236 * \frac{60}{2\pi} = 0.2236 * \frac{60}{2*3.1416} = 2.135$ rev/min