

A belt is attached to the rim of a wheel of radius 25 cm. Assuming that the belt doesn't slip and is traveling at 5 m/s, what is the angular speed of the wheel?

A pulley of 5.0 cm, on a motor, is turning at 30 rev/s and slows down to 20 rev/s in 2.0 s? What is the average angular acceleration of the pulley?

A disk initially rotating at 20 rad/s accelerates at a rate of 4 rad/s for 3 s. The disk then rotates at constant angular velocity for 4 s and then decelerates at a rate of 3 rad/s till it comes to rest.

a) Draw a qualitative angular velocity-time graph

b) How fast is the disk going at $t = 4$ s?

c) When will the disk come to rest?

d) Through what angle did the disk rotate before coming to rest?

At $t = 0$, a wheel rotating about a fixed axis at a constant angular acceleration has an angular velocity of 2.0 rad/s . Two seconds later it has turned through 5.0 complete revolutions. What is the angular acceleration of this wheel?

a) 14 rad/s^2

b) 17 rad/s^2

c) 20 rad/s^2

d) 23 rad/s^2