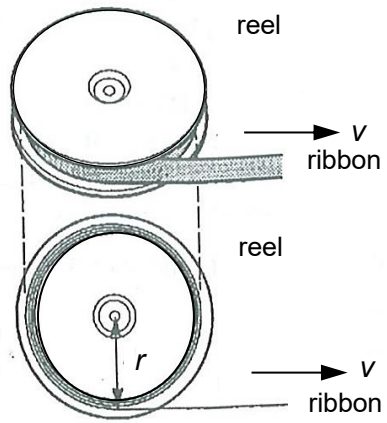


8

A ribbon, wound around a reel, is pulled and rotates about its centre. The ribbon leaves the reel at a constant  $v$  and at a variable distance  $r$  from the centre of the reel as shown.



What is the relationship between the angular velocity of the reel and the variable distance  $r$  from the centre of the reel?

**A**

Angular velocity is proportional to  $\frac{1}{r^2}$ .

**B**

Angular velocity is proportional to  $\frac{1}{r}$ .

**C**

Angular velocity is proportional to  $r$ .

**D**

Angular velocity does not depend on  $r$ .