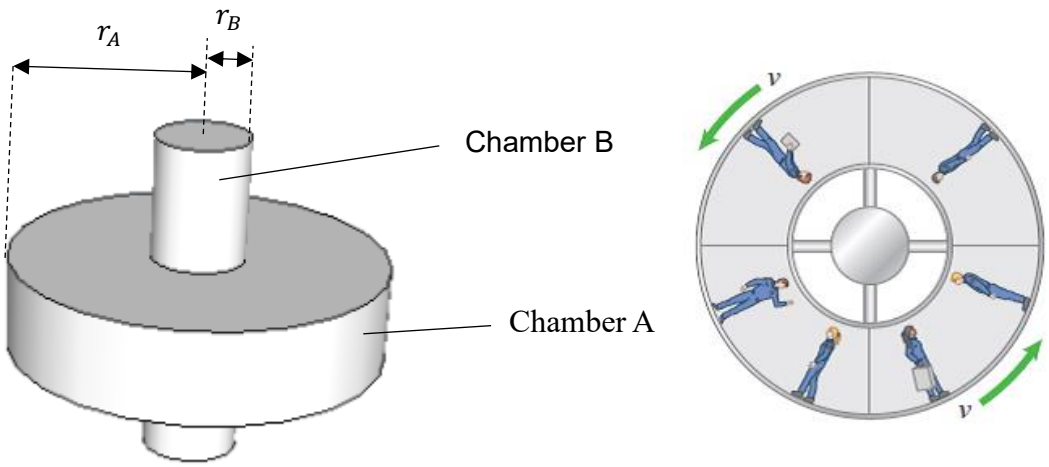
8 To create artificial gravity, the space station shown in the figure below is rotating at a rate of 1.0 revolution per minute. This allows the astronauts to experience the illusion of gravity and walk on the inner walls as shown below.



The radii of the cylindrically-shaped chambers A and B are r_A and r_B respectively. The ratio of the radii is r_A/r_B = 4.0. Chamber A simulates acceleration due to gravity of 10.0 m s^{-2}. What is the tangential velocity of chamber B and its acceleration due to gravity that is simulated in it?

	Tangential velocity of Chamber **B** /m s^{-1}	Acceleration in Chamber **B** /ms^{-2}
A	12	2.5
B	24	2.5
C	48	5.0
D	64	5.0