## Space Station

A projected space station consists of a circular tube that will rotate about its center (like a tubular bicycle tire) as shown in figure below. The circle formed by the tube has a diameter of about $D=1.10 \mathrm{~km}$. What must be the rotation speed (in revolutions per day) if an effect equal to gravity at the surface of the Earth $(1 \mathrm{~g})$ is to be felt? Do not enter units.


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