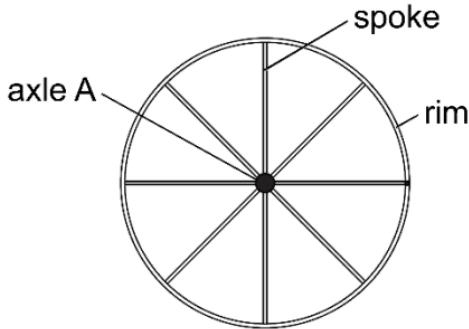


**26** A metal wheel consists of an axle A, eight spokes and a rim as shown.



The rim has a radius of  $0.65\text{ m}$  and the wheel rotates with an angular speed of  $120\text{ rad s}^{-1}$ . There is a uniform magnetic field of flux density  $0.23\text{ T}$  perpendicular to the plane of the page.

What is the magnitude of the e.m.f. induced across each spoke?

**A**  $2.9\text{ V}$

**B**  $5.8\text{ V}$

**C**  $12\text{ V}$

**D**  $18\text{ V}$

**[Turn over]**