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A metal bar is placed in a horizontal position within a region of vertically directed uniform magnetic field. The bar is made to rotate with constant angular velocity about a vertical axis through its center.

Which of the following points should a voltmeter be connected across to detect the maximum potential difference?

A

any two points on the bar will give the same reading

B

between the center and one end of the bar

C

between the two ends of the bar

D

between start of the bar and across $\frac{3}{4}$ length of the bar