Different contours around the same conductor. Consider two identical cylindrical metallic conductors carrying steady currents of the same intensity and Amperian contours positioned around each of them. The first contour is circular, while the other one has a square shape, as shown in Fig. Q4.7. The circulation of the magnetic flux density vector along the circular contour is

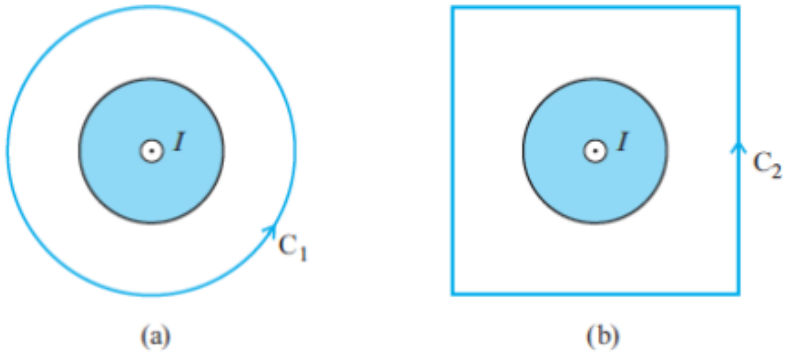

Figure Q4.7 Contours of circular (a) and square (b) shapes outside cylindrical conductors carrying steady currents of the same intensity; for Question 4.9.

(A) larger than
(B) the same as
(C) smaller than

that along the square contour.

Solution: (B)
Answer: (B)