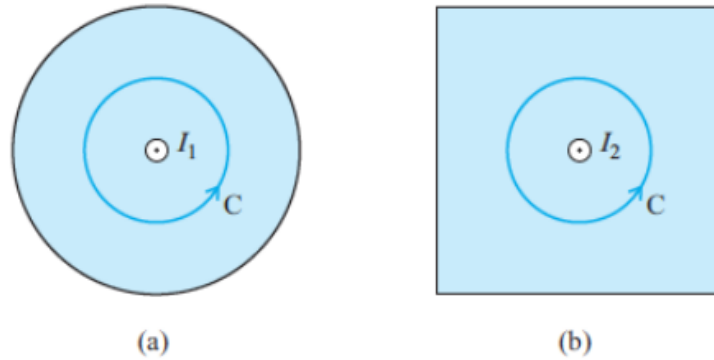*Same contour inside different conductors.* Consider two very long metallic conductors, one of a circular and the other of square cross section. Both conductors carry steady currents of the same density. If the same circular contour C is positioned inside each of the conductor, as in Fig. Q4.6, the circulation of the magnetic flux density vector along C in the circular conductor is

(a)   (b)

Figure Q4.6 Very long conductors of circular (a) and square (b) cross sections with steady currents of the same density and the same circular Amperian contour positioned inside conductors; for Question 4.8.

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

the circulation in the square conductor.

Solution: (B)
Answer: (B)