Line integral along a part of contour. A contour composed of eight straight segments is positioned in air near a very long wire conductor with a steady current of intensity I (Fig. Q4.8). The line integral of the magnetic flux density vector due to this current along the part of the contour between points M and Q, via N and P, equals

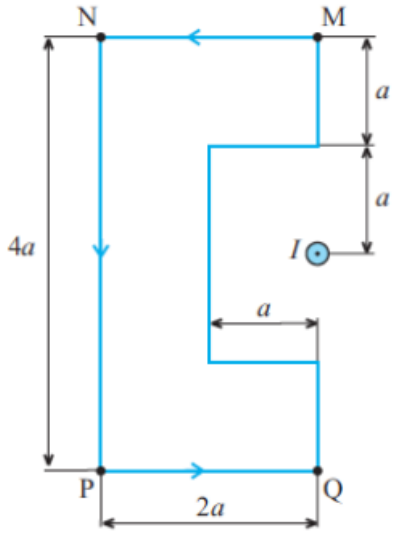

Figure Q4.8 Contour composed of eight straight segments in the magnetic field of a very long current conductor; for Question 4.10.

(A) $\mu_0 I$.
(B) $\mu_0 I/2$.
(C) zero.
(D) $-\mu_0 I$.
(E) none of the above.

Solution: (B)
Answer: (B)