GATE 2023-EC

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Question : 14

The value of the contour integral, $\oint_C \frac{z+2}{z^2+2z+2}\, dz$, where the contour C is $\{z : |z + 1 - \frac{3}{2}i| = 1\}$, taken in the counter clockwise direction, is

(A) $-\pi(1 + j)$
(B) $\pi(1 + j)$
(C) $\pi(1 - j)$
(D) $-\pi(1 - j)$

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Solution: