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 $-\pi(1 - j)$

(GATE ST 2023)

Solution: