

The two factors are complex conjugates, so their product will result in a real number. Use FOIL.

$$\begin{aligned}(4 - 9i)(4 + 9i) &= (4)(4) + (4)(9i) - (9i)(4) - (9i)(9i) = \\ &16 + 36i - 36i - 81i^2 = \\ &= 16 - (81)(-1) = 16 + 81 = 97\end{aligned}$$