

You may have seen the plus and minus signs and thought they would make the product real. The factors would need to be conjugates to result in a real product such as 45. Using FOIL shows that this is not the number 45.

$$\begin{aligned}(6 + 3i)(3 - 6i) &= (6)(3) - (6)(6i) + (3i)(3) - (3i)(6i) = \\ &18 - 36i + 9i - 18i^2 \\ &= 18 - 27i - 18(-1) = 18 - 27i + 18 = 36 - 27i\end{aligned}$$