Exercise 8

If $f(x) = 2x^2 + x - 3$, evaluate $f(2 - 3i)$.

Solution

Plug in $2 - 3i$ wherever x is.

$$\begin{aligned} f(2-3i) &= 2(2-3i)^2 + (2-3i) - 3 \\ &= 2(4 - 12i + 9i^2) - 1 - 3i \\ &= 2(4 - 12i - 9) - 1 - 3i \\ &= 2(-5 - 12i) - 1 - 3i \\ &= -10 - 24i - 1 - 3i \\ &= -11 - 27i \end{aligned}$$