

EXERCISE ONE Compute the following two complex numbers. You need to write the answer in the form $a + bi$ where a, b are explicit real numbers. You cannot use $+, -, \times, /, \sin, \cos, e^\theta$ in the final expression.

1 $i^{99} + i^{88} - (-i)^{105} + 5i;$

2 $\frac{(1-i)(2-i)}{3+\sqrt{2}i}.$