

Question 1 [4]

You have the following complex number:

$$z = 12 + j3$$

Here, $j = \sqrt{-1}$.

(i) What is: $z + z^*$?

(ii) What is: $z - z^*$?

(iii) What is: $-z + z^*$?

(iv) What is: $-z - z^*$?

Question 2 [6]

You have the following two complex numbers:

$$x = 8 + j16 \text{ and } y = 12 + j3$$

(i) What is: $x + y$?

(ii) What is: $x - y$?

(iii) What is: $x + y^*$?

(iv) What is: $x - y^*$?

(v) What is: $x^* + y$?

(vi) What is: $x^* - y$?