

## Section 2: The Argand diagram

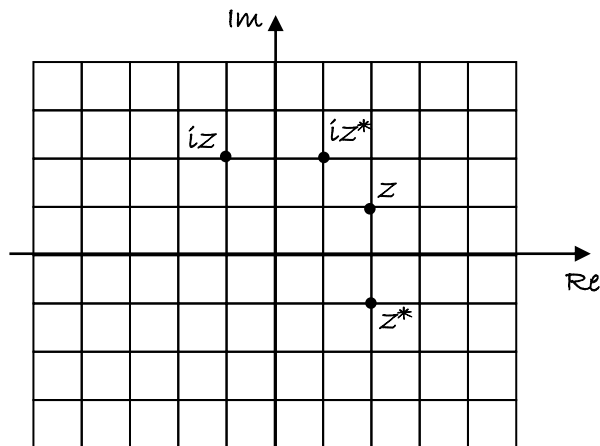
### Solutions to Exercise level 2

1.  $z = 2 + i$

$z^* = 2 - i$

$iz = i(2 + i) = 2i - 1 = -1 + 2i$

$iz^* = i(2 - i) = 2i + 1 = 1 + 2i$



(i)  $z^*$  is obtained by reflecting  $z$  in the real axis.

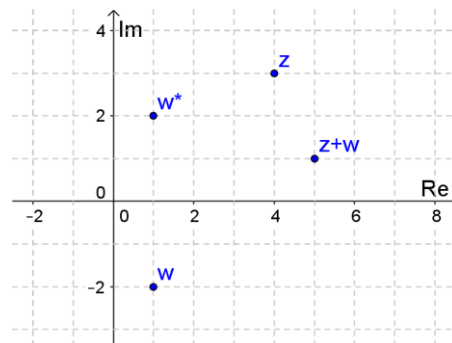
(ii)  $iz$  is obtained by rotating  $z$  through  $90^\circ$  anticlockwise about the origin.

2. (i)  $z = 4 + 3i$

(ii)  $w = 1 - 2i$

(iii)  $z + w = 5 + i$

(iv)  $w^* = 1 + 2i$



3. (i)  $z_1 = 3 + 2i$

(ii)  $z_2 = 4 - i$

(iii)  $z_1 = 7 + i$

(iv)  $z_1 = -1 + 3i$

