3. Write down the complex numbers represented by the letters A, B, C, D, E, F, N.
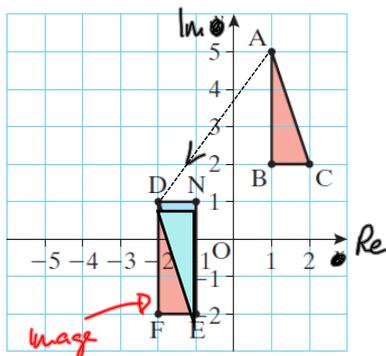
$A = 1 + 5i$

$B = 1 + 2i$

$C = 2 + 2i$

$D = -2 + i$

$E = -1 - 2i$
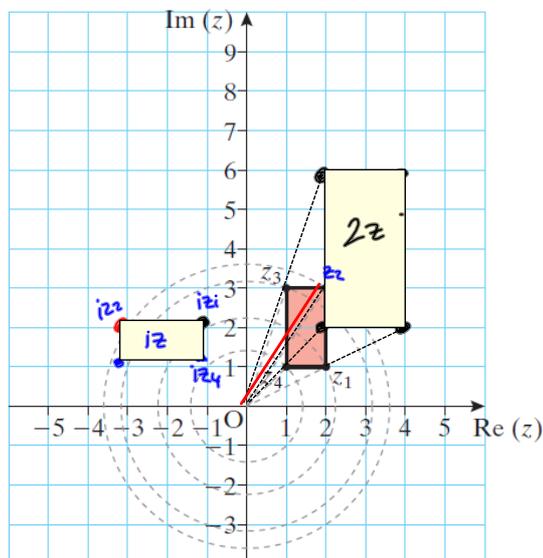
$F = -2 - 2i$

$N = -1 + i$

Image

(i) What transformation in the complex plane moves the triangle ABC onto DEF?
(ii) Copy this diagram and indicate the image of ABC by the transformation (ABC)(i).
(iii) What rotation followed by a translation is needed to transform ABC onto DEN?

(i)	$-3 - 4i$	(translation)
(ii)	ABC ⟶ DFE	
(iii)	Rotation of 180°	

9. A rectangle is represented in the complex plane by the numbers z_1, z_2, z_3, z_4.

Copy this diagram and mark in the diagram the image of this rectangle under the following transformations

(i) $z \longrightarrow 2z$ enlargement

(ii) $z \longrightarrow (i)z$ Rotation 90° to left

(iii) $z \longrightarrow (2 + i)z$

$z_1 = 2 + i$

$2(z_1) = 4 + 2i$

$z_1 = 2 + i$

$i(z_1) = 2i + 1i^2 = -1 + 2i$

134°