

# Complex numbers

chapter 3

## Section 3.5 Transformations of complex numbers

**PROJECT MATHS**  
**Text & Tests 6**

108

- Example 1**
- (i) Plot the complex numbers  $z_1 = 3 + 2i$ ,  $z_2 = 3 + 3i$ ,  $z_3 = 4 + 2i$  on the Argand diagram.
  - (ii) Using the same axes, plot the complex numbers  $3z_1$ ,  $3z_2$  and  $3z_3$ .
  - (iii) Plot the rotation  $z_1(i)^2$ ,  $z_2(i)^2$  and  $z_3(i)^2$ .
  - (iv) The complex numbers  $4 - i$ ,  $4, 5 - i$  are the images of  $z_1, z_2, z_3$  by the translation  $a + bi$ . Find the values of  $a$  and  $b$ .

