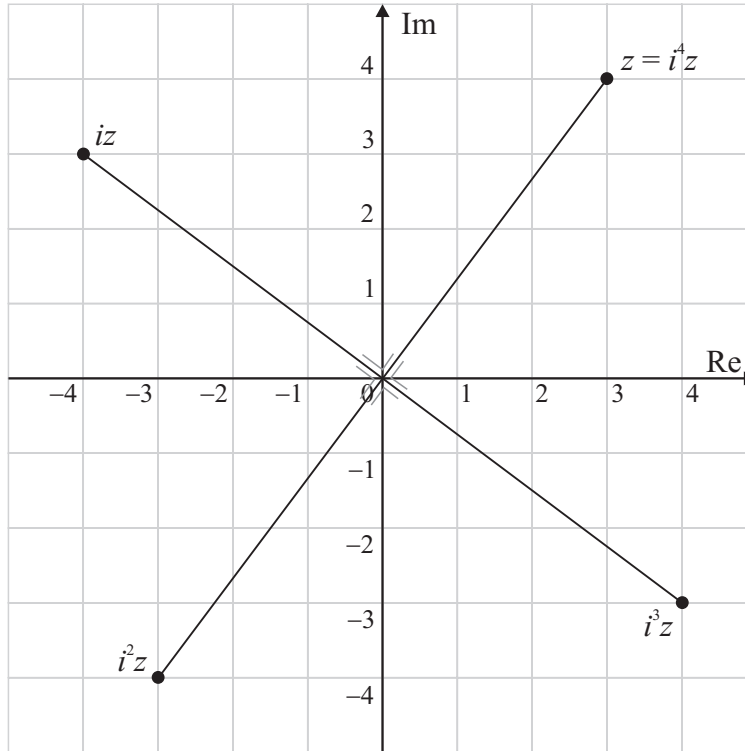


## SAMPLE PAPER 5: PAPER 1

### QUESTION 1 (25 MARKS)

#### Question 1 (a)



#### Question 1 (b)

$$z = 3 + 4i \rightarrow m = \frac{4}{3}$$

$$iz = i(3 + 4i) = 3i + 4i^2 = -4 + 3i \rightarrow m = -\frac{3}{4}$$

$$i^2z = -1(3 + 4i) = -3 - 4i \rightarrow m = \frac{4}{3}$$

$$i^3z = -i(3 + 4i) = -3i - 4i^2 = 4 - 3i \rightarrow m = -\frac{3}{4}$$

$$i^4z = 1(3 + 4i) = 3 + 4i \rightarrow m = \frac{4}{3}$$

#### Question 1 (c)

Multiplying a complex number $z$ by:	Causes:
$i$	an anti-clockwise rotation of $90^\circ$ to $z$
$i^2$	an anti-clockwise rotation of $180^\circ$ to $z$
$i^3$	an anti-clockwise rotation of $270^\circ$ to $z$
$i^4$	an anti-clockwise rotation of $360^\circ$ to $z$