Complex Numbers (Q 4, Paper 1)

Lesson No. 3: Adding and Multiplying Complex Nos.

2007

4 (a) Given that $i^2 = -1$, simplify

$3(2-4i)+i(5-6i)$

and write your answer in the form $x + yi$, where $x, y \in \mathbf{R}$.

2005

4 (a) Let $u = 4-2i$, where $i^2 = -1$.

Plot

(i) u

(ii) $u-4$

on an Argand diagram.

2004

4 (a) Given that $i^2 = -1$, simplify

$4(2-i)+i(3+5i)$

and write your answer in the form $x + yi$, where $x, y \in \mathbf{R}$.

2002

4 (a) Given that $i^2 = -1$, simplify

$2(3-i)+i(4+5i)$

and write your answer in the form $x + yi$ where $x, y \in \mathbf{R}$.

2001

4 (a) Let $w = 3-2i$ where $i^2 = -1$.

Plot

(i) w

(ii) iw

on an Argand diagram.

2000

4 (a) Simplify

$7(2+i)+i(11+9i)$

and express your answer in the form $x + yi$ where $x, y \in \mathbf{R}$ and $i^2 = -1$.

1999

4 (a) Let $z = 5 + 4i$, where $i^2 = -1$.
Plot
(i) z

(ii) $z - 4i$
on an Argand diagram.

1997

4 (a) Simplify
$3(1+5i)+i(3-2i)$
and express your answer in the form $p + qi$, where $p, q \in \mathbf{R}$ and $i^2 = -1$.

(b) (ii) If $w = 4i$, verify that
$w^3 - w^2 + 16w - 16 = 0$.

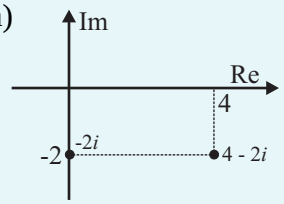
1996

4 (a) Let $z = 1 - 4i$, where $i^2 = -1$.
Plot z and $2 + z$ on an Argand diagram.

ANSWERS

2007 4 (a) $12 - 7i$

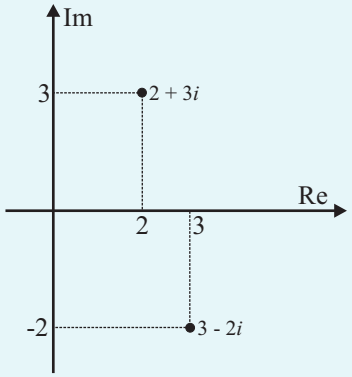
2005 4 (a)



2004 4 (a) $3 - i$

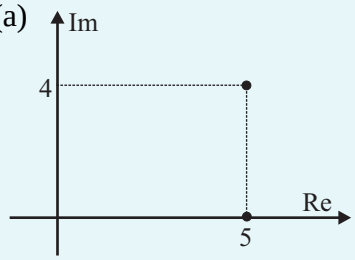
2002 4 (a) $1 + 2i$

2001 4 (a)



2000 4 (a) $5 + 18i$

1999 4 (a)



1997 4 (a) $5 + 18i$

1996 4 (a)