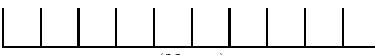
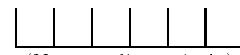


ESERCITAZIONE 1.1

		
(Cognome)	(Nome)	(Numero di matricola)

- Dire se le seguenti proposizioni sono vere o false:

Proposizione	Vera	Falsa
$i^7 = i$	<input type="checkbox"/>	<input type="checkbox"/>
$i^{36} = 36$	<input type="checkbox"/>	<input type="checkbox"/>
$i^{361} = 1$	<input type="checkbox"/>	<input type="checkbox"/>
$(2i)^3 = -8i$	<input type="checkbox"/>	<input type="checkbox"/>
$z = i4 \Rightarrow z^2 = -16$	<input type="checkbox"/>	<input type="checkbox"/>
$z^2 = -25 \Rightarrow z = i5$	<input type="checkbox"/>	<input type="checkbox"/>
$z = 1 + i2 \Rightarrow z^2 = 1 + i4$	<input type="checkbox"/>	<input type="checkbox"/>

Proposizione	Vera	Falsa
$ z = \bar{z} $	<input type="checkbox"/>	<input type="checkbox"/>
$ z = - \bar{z} $	<input type="checkbox"/>	<input type="checkbox"/>
$ z = -\bar{z} $	<input type="checkbox"/>	<input type="checkbox"/>
$ z + w = z + w $	<input type="checkbox"/>	<input type="checkbox"/>
$ z \cdot w = z \cdot w $	<input type="checkbox"/>	<input type="checkbox"/>
$z = \bar{z} \Rightarrow z \in \mathbb{R}$	<input type="checkbox"/>	<input type="checkbox"/>
$z = -\bar{z} \Rightarrow z \in i\mathbb{R}$	<input type="checkbox"/>	<input type="checkbox"/>

- Dato $z = 2 - 4i$, determinare

$$(i) \quad Re(z) =$$

$$(iv) \quad -z =$$

$$(ii) \quad Im(z) =$$

$$(v) \quad \bar{z} =$$

$$(iii) \quad |z| =$$

$$(vi) \quad z^{-1} =$$

- Dati $z = 2 - 4i$, $w = 3 + 5i$

ALLORA:

$$(i) \quad z + w =$$

$$(iv) \quad z \cdot w =$$

$$(ii) \quad z - w =$$

$$(v) \quad \bar{z} \cdot w =$$

$$(iii) \quad |z + w| =$$

$$(vi) \quad \frac{w}{z} =$$

- Dato $z_0 = 3 + 4i$, risolvere le seguenti equazioni:

$$(i) \quad z + z_0 = 0$$

$$z =$$

$$(iv) \quad z \cdot z_0 = 3$$

$$z =$$

$$(ii) \quad z + 2z_0 = 1$$

$$z =$$

$$(v) \quad z \cdot z_0 = 6 + 6i$$

$$z =$$

$$(iii) \quad 3z - z_0 = 2 + i$$

$$z =$$

$$(vi) \quad \frac{z_0}{z} = 2 + i$$

$$z =$$

- Disegnare nel piano di Gauss i seguenti insiemi:

$$\{z \in \mathbb{C} : |z| = 2\};$$

$$\{z \in \mathbb{C} : |z + 2| < |z|\};$$

$$\{z \in \mathbb{C} : Re(z) \geq Im(z)\}$$