



Number Types (Complex) - Description to Set Builder Definition - Real, Imaginary, and Complex Numbers

1

Select the set definition that matches this description

Any number that can be expressed as a fraction of two integers (e.g., $1/2$, $-3/4$, 5).

$\{bi \mid b \in \mathbb{R}, b \neq 0\}$	$\{x \mid x \in \mathbb{Q}\}$
$\{x \mid x \in \mathbb{N}\}$	$\{x \mid x \in \mathbb{W}\}$

Select the set definition that matches this description

A number that can be expressed as a real number multiplied by the imaginary unit i (e.g., $-2.5i$).

$\{x \mid x \in \mathbb{Q}\}$	$\{x \mid x \in \mathbb{R}\}$
$\{x \mid x \in \mathbb{N}\}$	$\{bi \mid b \in \mathbb{R}, b \neq 0\}$

3

Select the set definition that matches this description

A positive integer (1, 2, 3, ...).

$\{x \mid x \in \mathbb{N}\}$	$\{x \mid x \in \mathbb{W}\}$
$\{x \mid x \in \mathbb{Q}\}$	$\{x \mid x \in \mathbb{R}\}$

4

Select the set definition that matches this description

A non-negative integer (0, 1, 2, 3, ...).

$\{x \mid x \in \mathbb{W}\}$	$\{x \mid x \in \mathbb{Q}\}$
$\{x \mid x \in \mathbb{R}, x \notin \mathbb{Q}\}$	$\{x \mid x \in \mathbb{N}\}$

5

Select the set definition that matches this description

Any number that can be found on the number line, including both rational and irrational numbers.

$\{x \mid x \in \mathbb{R}\}$	$\{x \mid x \in \mathbb{N}\}$
$\{bi \mid b \in \mathbb{R}, b \neq 0\}$	$\{x \mid x \in \mathbb{Q}\}$

6

Select the set definition that matches this description

A number that cannot be expressed as a simple fraction (e.g., $\sqrt{2}$, π).

$\{x \mid x \in \mathbb{R}, x \notin \mathbb{Q}\}$	$\{x \mid x \in \mathbb{Q}\}$
$\{x \mid x \in \mathbb{W}\}$	$\{x \mid x \in \mathbb{R}\}$

7

Select the set definition that matches this description

A number that has a real and an imaginary part (e.g. $3 + 4i$).

$\{bi \mid b \in \mathbb{R}, b \neq 0\}$	$\{x \mid x \in \mathbb{Q}\}$
$\{x \mid x \in \mathbb{R}\}$	$\{a + bi \mid a, b \in \mathbb{R}\}$