



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

1 Select the description that matches this set definition $\{x \mid x \in \mathbb{N}\}$

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

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

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

D A number that can be expressed as a real number multiplied by the imaginary unit

Select the description that matches this set definition $\{x \mid x \in \mathbb{W}\}$

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

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

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

D A number that can be expressed as a real number multiplied by the imaginary unit

3 Select the description that matches this set definition $\{x \mid x \in \mathbb{Q}\}$

A A number that can be expressed as a real number multiplied by the imaginary unit

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

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

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

4 Select the description that matches this set definition $\{x \mid x \in \mathbb{R}\}$

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

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

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

D A number that can be expressed as a real number multiplied by the imaginary unit

5 Select the description that matches this set definition $\{bi \mid b \in \mathbb{R}, b \neq 0\}$

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

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

C A number that can be expressed as a real number multiplied by the imaginary unit

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

6 Select the description that matches this set definition

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

A Any number that can be expressed as a fraction of two

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

C A number that can be expressed as a real number

D A number that cannot be expressed as a simple fraction

7 Select the description that matches this set definition

$\{a + bi \mid a, b \in \mathbb{R}\}$

A Any number that can be found on the number line, including

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

C Any number that can be expressed as a fraction of two

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