1 Select the description that matches this set definition

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

A	A number that can be expressed as a real number	B	A number that has either/both a real and an imaginary part
C	A positive integer (1, 2, 3, ...)	D	Any number that can be found on the number line, including

2 Select the description that matches this set definition

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

A	A number that has either/both a real and an imaginary part (e.g. 6, -7i, 3 + 4i)	B	Any number that can be expressed as a fraction of two integers (e.g. 1/2, -3/4, 5)
C	A number that can be expressed as a real number multiplied by the imaginary unit	D	Any number that can be found on the number line, including both rational and irrational

3 Select the description that matches this set definition

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

A	A number that includes a real part and an imaginary part	B	A number that cannot be expressed as a simple fraction
C	Any number that can be found on the number line, including	D	A positive integer (1, 2, 3, ...)

4 Select the description that matches this set definition

$$\{x \mid x \in \mathbb{W}\}$$

A	A number that has either/both a real and an imaginary part (e.g. 6, -7i, 3 + 4i)	B	A number that cannot be expressed as a simple fraction (e.g. √2, π)
C	A non-negative integer (0, 1, 2, 3, ...).	D	Any number that can be expressed as a fraction of two integers (e.g., 1/2, -3/4, 5).

5 Select the description that matches this set definition

$$\{x \mid x \in \mathbb{Q}\}$$

A	A positive integer (1, 2, 3, ...).	B	Any number that can be expressed as a fraction of two integers (e.g. 1/2, -3/4, 5)
C	Any number that can be found on the number line, including both rational and irrational	D	A non-negative integer (0, 1, 2, 3, ...).

6 Select the description that matches this set definition

$$\{x \mid x \in \mathbb{N}\}$$

A	A number that cannot be expressed as a simple fraction (e.g. √2, π)	B	Any number that can be found on the number line, including both rational and irrational
C	A number that can be expressed as a real number multiplied by the imaginary unit	D	A positive integer (1, 2, 3, ...).

7 Select the description that matches this set definition

$$\{x \mid x \in \mathbb{R}\}$$

A	A number that has either/both a real and an imaginary part (e.g. 6, -7i, 3 + 4i)	B	A number that cannot be expressed as a simple fraction (e.g. √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

8 Select the description that matches this set definition

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

A	Any number that can be found on the number line, including	B	A number that cannot be expressed as a simple fraction
C	A non-negative integer (0, 1, 2, 3, ...).	D	A positive integer (1, 2, 3, ...)