



## Number Types (Real) - Description to Set Builder Definition - Whole, Natural, Integer, Rational, Irrational Numbers

1

Select the set definition that matches this description

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

<sup>A</sup>  $\{x \mid x \in \mathbb{W}\}$    <sup>B</sup>  $\{x \mid x \in \mathbb{Q}\}$

<sup>C</sup>  $\{bi \mid b \in \mathbb{R}, b \neq 0\}$    <sup>D</sup>  $\{x \mid x \in \mathbb{R}\}$

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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).

<sup>A</sup>  $\{bi \mid b \in \mathbb{R}, b \neq 0\}$    <sup>B</sup>  $\{x \mid x \in \mathbb{Q}\}$

<sup>C</sup>  $\{x \mid x \in \mathbb{R}, x \notin \mathbb{Q}\}$    <sup>D</sup>  $\{x \mid x \in \mathbb{N}\}$

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3

Select the set definition that matches this description

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

<sup>A</sup>  $\{x \mid x \in \mathbb{Q}\}$    <sup>B</sup>  $\{x \mid x \in \mathbb{R}, x \notin \mathbb{Q}\}$

<sup>C</sup>  $\{a + bi \mid a, b \in \mathbb{R}, b \neq 0\}$    <sup>D</sup>  $\{x \mid x \in \mathbb{N}\}$

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4

Select the set definition that matches this description

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

<sup>A</sup>  $\{bi \mid b \in \mathbb{R}, b \neq 0\}$    <sup>B</sup>  $\{x \mid x \in \mathbb{Q}\}$

<sup>C</sup>  $\{a + bi \mid a, b \in \mathbb{R}\}$    <sup>D</sup>  $\{x \mid x \in \mathbb{R}\}$

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5

Select the set definition that matches this description

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

<sup>A</sup>  $\{x \mid x \in \mathbb{R}, x \notin \mathbb{Q}\}$    <sup>B</sup>  $\{x \mid x \in \mathbb{Q}\}$

<sup>C</sup>  $\{bi \mid b \in \mathbb{R}, b \neq 0\}$    <sup>D</sup>  $\{x \mid x \in \mathbb{N}\}$

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