



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

1 Select the description that matches this set definition

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

- |                                                                                           |                                                                                      |
|-------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| A A positive integer (1, 2, 3, ...).                                                      | B A non-negative integer (0, 1, 2, 3, ...).                                          |
| C Any number that can be found on the number line, including both rational and irrational | D A number that cannot be expressed as a simple fraction (e.g., $\sqrt{2}$ , $\pi$ ) |

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 A non-negative integer (0, 1, 2, 3, ...). | D A number that cannot be expressed as a simple fraction (e.g., $\sqrt{2}$ , $\pi$ )        |

3 Select the description that matches this set definition

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

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

4 Select the description that matches this set definition

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

- |                                                                                           |                                                                                      |
|-------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| A A non-negative integer (0, 1, 2, 3, ...).                                               | B A positive integer (1, 2, 3, ...).                                                 |
| C Any number that can be found on the number line, including both rational and irrational | D A number that cannot be expressed as a simple fraction (e.g., $\sqrt{2}$ , $\pi$ ) |

5 Select the description that matches this set definition

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

- |                                                                                           |                                                                                      |
|-------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| A Any number that can be found on the number line, including both rational and irrational | B A positive integer (1, 2, 3, ...).                                                 |
| C A non-negative integer (0, 1, 2, 3, ...).                                               | D A number that cannot be expressed as a simple fraction (e.g., $\sqrt{2}$ , $\pi$ ) |