



Function Domain/Range Definition - Inequality to Set Builder (With Union)

1 Which set describes the range of this inequality?

$$-4 \leq Y < 6 \text{ or } 8 \leq Y$$

A $\{Y \in \mathbb{R} \mid -4 < Y \leq 6 \text{ or } 8 < Y\}$

B $\{Y \in \mathbb{R} \mid -4 \leq Y < 6 \text{ or } 8 \leq Y\}$

2 Which set describes the domain of this inequality?

$$-2 \leq X \leq 7 \text{ or } 8 < X < 10$$

A $\{X \in \mathbb{R} \mid -2 < X < 7 \text{ or } 8 \leq X < 10\}$

B $\{X \in \mathbb{R} \mid -2 \leq X \leq 7 \text{ or } 8 < X < 10\}$

3 Which set describes the domain of this inequality?

$$X \leq 1 \text{ or } 2 < X \leq 10$$

A $\{X \in \mathbb{R} \mid -1 \leq X \leq 1 \text{ or } 2 \leq X \leq 10\}$

B $\{X \in \mathbb{R} \mid X \leq 1 \text{ or } 2 < X \leq 10\}$

4 Which set describes the range of this inequality?

$$Y \leq -2 \text{ or } -1 < Y$$

A $\{Y \in \mathbb{R} \mid Y < -2 \text{ or } -1 < Y < 1\}$

B $\{Y \in \mathbb{R} \mid Y \leq -2 \text{ or } -1 < Y\}$

5 Which set describes the range of this inequality?

$$Y < 6 \text{ or } 8 < Y \leq 10$$

A $\{Y \in \mathbb{R} \mid Y < 6 \text{ or } 8 < Y \leq 10\}$

B $\{Y \in \mathbb{R} \mid -6 < Y < 6 \text{ or } 8 \leq Y < 10\}$

6 Which set describes the domain of this inequality?

$$X < 3 \text{ or } 4 < X$$

A $\{X \in \mathbb{R} \mid -3 < X < 3 \text{ or } 4 < X\}$

B $\{X \in \mathbb{R} \mid X < 3 \text{ or } 4 < X\}$

7 Which set describes the domain of this inequality?

$$X < 6 \text{ or } 8 \leq X \leq 10$$

A $\{X \in \mathbb{R} \mid -6 < X < 6 \text{ or } 8 < X < 10\}$

B $\{X \in \mathbb{R} \mid X < 6 \text{ or } 8 \leq X \leq 10\}$

8 Which set describes the domain of this inequality?

$$1 \leq X \leq 7 \text{ or } 8 \leq X$$

A $\{X \in \mathbb{R} \mid 1 \leq X \leq 7 \text{ or } 8 \leq X\}$

B $\{X \in \mathbb{R} \mid 1 < X < 7 \text{ or } 8 \leq X\}$