



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

1 What inequality describes domain on this number line?

$$\{X \in \mathbb{R} \mid -3 < X \leq 6 \text{ or } 8 < X\}$$

A $-3 < X \leq 6 \text{ or } 8 < X$

B $-3 \leq X < 6 \text{ or } 8 \leq X \leq 10$

2 What inequality describes domain on this number line?

$$\{X \in \mathbb{R} \mid X \leq 2 \text{ or } 5 < X < 10\}$$

A $X \leq 2 \text{ or } 5 < X < 10$

B $-2 \leq X \leq 2 \text{ or } 5 < X \leq 10$

3 What inequality describes domain on this number line?

$$\{X \in \mathbb{R} \mid -9 \leq X \leq -5 \text{ or } -1 \leq X \leq 7\}$$

A $-9 < X < -5 \text{ or } -1 < X < 7$

B $-9 \leq X \leq -5 \text{ or } -1 \leq X \leq 7$

4 What inequality describes range on this number line?

$$\{Y \in \mathbb{R} \mid 0 < Y \leq 7 \text{ or } 8 \leq Y\}$$

A $0 \leq Y < 7 \text{ or } 8 \leq Y$

B $0 < Y \leq 7 \text{ or } 8 \leq Y$

5 What inequality describes range on this number line?

$$\{Y \in \mathbb{R} \mid Y < 3 \text{ or } 5 < Y \leq 10\}$$

A $Y < 3 \text{ or } 5 < Y \leq 10$

B $-3 < Y < 3 \text{ or } 5 < Y < 10$

6 What inequality describes domain on this number line?

$$\{X \in \mathbb{R} \mid X \leq 5 \text{ or } 6 \leq X\}$$

A $X \leq 5 \text{ or } 6 \leq X$

B $-5 \leq X \leq 5 \text{ or } 6 < X$

7 What inequality describes range on this number line?

$$\{Y \in \mathbb{R} \mid -9 \leq Y \leq 2 \text{ or } 4 < Y\}$$

A $-9 < Y < 2 \text{ or } 4 \leq Y$

B $-9 \leq Y \leq 2 \text{ or } 4 < Y$

8 What inequality describes range on this number line?

$$\{Y \in \mathbb{R} \mid 0 \leq Y \leq 4 \text{ or } 5 < Y\}$$

A $0 < Y \leq 4 \text{ or } 5 < Y$

B $0 \leq Y \leq 4 \text{ or } 5 < Y$