

9. Solve the inequality  $-7 < 3 - x < 7$

express your solution sets using interval notation.

$$[-4, 10]$$

$$(-\infty, -4) \cup (10, +\infty)$$

$$(-4, 10)$$

$$(-\infty, -4] \cup [10, +\infty)$$

**Solution**

**Intervals**

Solve:

$$|3 - x| + 3 < 10$$

$$|3 - x| < 7$$

$$-7 < 3 - x < 7$$

$$-7 - (3) < -x < 7 - (3)$$

$$-10 < -x < 4$$

Divide each side by  $-1$  and flip the inequalities

$$|3 - x| + 3 < 10$$

$$-4 < x < 10$$

