2. Solve the inequalitie $-7 \leqslant 10 - x \leqslant 7$
express your solution sets using interval notation.

$(3,17)$

$(-\infty,3) \cup (17,+\infty)$

$[3,17]$

$(-\infty,3] \cup [17,+\infty)$

Solution

Intervals

Solve:

$|10 - x| + 2 \leq 9$

$|10 - x| \leq 7$

$-7 \leqslant 10 - x \leqslant 7$

$-7 - (10) \leqslant -x \leqslant 7 - (10)$

$-17 \leqslant -x \leqslant -3$

Divide each side by -1 and flip the inequalities

$|10 - x| + 2 \leq 9$

$3 \leq x \leq 17$