

9. Solve the inequality $-4 \leq 2x + 1 \leq 4$

express your solution sets using interval notation.

$$\left(-\frac{5}{2}, \frac{3}{2}\right)$$

$$\left(-\infty, -\frac{5}{2}\right) \cup \left(\frac{3}{2}, +\infty\right)$$

$$\left[-\frac{5}{2}, \frac{3}{2}\right]$$

$$\left(-\infty, -\frac{5}{2}\right] \cup \left[\frac{3}{2}, +\infty\right)$$

Solution

Intervals

Solve:

$$|2x + 1| + 2 \leq 6$$

$$|2x + 1| \leq 4$$

$$-4 \leq 2x + 1 \leq 4$$

$$-4 - (1) \leq 2x \leq 4 - (1)$$

$$-5 \leq 2x \leq 3$$

Divide each side by 2

$$|2x + 1| + 2 \leq 6$$

$$-\frac{5}{2} \leq x \leq \frac{3}{2}$$