

5. Solve the inequalities $|6x + 7| + 1 < 7$
express your solution sets using interval notation.

$$\left[-\frac{13}{6}, -\frac{1}{6}\right]$$

$$\left(-\infty, -\frac{13}{6}\right) \cup \left(-\frac{1}{6}, +\infty\right)$$

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Solution

Intervals

Solve:

$$|6x + 7| + 1 < 7$$

$$|6x + 7| < 6$$

$$-6 < 6x + 7 < 6$$

$$-6 - (7) < 6x < 6 - (7)$$

$$-13 < 6x < -1$$

Divide each side by 6

$$|6x + 7| + 1 < 7$$

$$-\frac{13}{6} < x < -\frac{1}{6}$$