

4. Solve the inequalities  $|3x - 1| + 1 < 10$   
express your solution sets using interval notation.

$$\left[-\frac{8}{3}, \frac{10}{3}\right]$$

$$\left(-\infty, -\frac{8}{3}\right) \cup \left(\frac{10}{3}, +\infty\right)$$

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**Solution**

**Intervals**

Solve:

$$|3x - 1| + 1 < 10$$

$$|3x - 1| < 9$$

$$-9 < 3x - 1 < 9$$

$$-9 - (-1) < 3x < 9 - (-1)$$

$$-8 < 3x < 10$$

Divide each side by 3

$$|3x - 1| + 1 < 10$$

$$-\frac{8}{3} < x < \frac{10}{3}$$

