5. Solve the inequalities $9 \leq 1 + |3x + 3|$
express your solution sets using interval notation.

$(-\frac{11}{3}, \frac{5}{3})$

$[-\frac{11}{3}, \frac{5}{3}]$

$(-\infty, -\frac{11}{3}] \cup [\frac{5}{3}, +\infty)$

$(-\infty, -\frac{11}{3}) \cup (\frac{5}{3}, +\infty)$

Solution

Intervals

Solve:

$9 \leq |3x + 3| + 1$

$8 \leq |3x + 3|$

$8 \leqslant 3x + 3$ or $3x + 3 \leqslant -8$

$8 - (3) \leqslant 3x$ or $3x \leqslant -8 - (3)$

$5 \leqslant 3x$ or $3x \leqslant -11$

Divide each side by 3

$9 \leq |3x+3| + 1$

$x \leq -\frac{11}{3}$ or $x \geq \frac{5}{3}$