8. Solve the inequalities $6 \le 1 + |3x - 9|$
express your solution sets using interval notation.

$(\frac{4}{3}, \frac{14}{3})$

$[\frac{4}{3}, \frac{14}{3}]$

$(-\infty, \frac{4}{3}] \cup [\frac{14}{3}, +\infty)$

$(-\infty, \frac{4}{3}) \cup (\frac{14}{3}, +\infty)$

Solution

Intervals

Solve:

$6 \le |3x - 9| + 1$

$5 \le |3x - 9|$

$5 \leqslant 3x - 9$ or $3x - 9 \leqslant -5$

$5 - (-9) \leqslant 3x$ or $3x \leqslant -5 - (-9)$

$14 \leqslant 3x$ or $3x \leqslant 4$

Divide each side by 3

$6 \le |3x - 9| + 1$

$x \le \frac{4}{3}$ or $x \ge \frac{14}{3}$