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

$(\frac{1}{3}, \frac{11}{3})$

$[\frac{1}{3}, \frac{11}{3}]$

$(-\infty, \frac{1}{3}] \cup [\frac{11}{3}, +\infty)$

$(-\infty, \frac{1}{3}) \cup (\frac{11}{3}, +\infty)$

Solution

Intervals

Solve:

$8 \le |3x - 6| + 3$

$5 \le |3x - 6|$

$5 \leqslant 3x - 6$ or $3x - 6 \leqslant -5$

$5 - (-6) \leqslant 3x$ or $3x \leqslant -5 - (-6)$

$11 \leqslant 3x$ or $3x \leqslant 1$

Divide each side by 3

$8 \le |3x-6| + 3$

$x \le \frac{1}{3}$ or $x \ge \frac{11}{3}$