8. Solve the inequalities $8 \le 1 + |4x + 5|$
express your solution sets using interval notation.

$(-3, \frac{1}{2})$

$[-3, \frac{1}{2}]$

$(-\infty, -3] \cup [\frac{1}{2}, +\infty)$

$(-\infty, -3) \cup (\frac{1}{2}, +\infty)$

Solution

Intervals

Solve:

$8 \le |4x + 5| + 1$

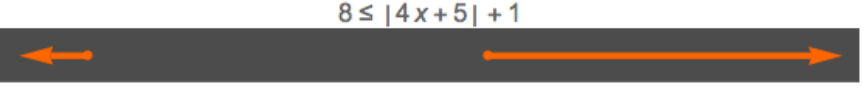
$7 \le |4x + 5|$

$7 \leqslant 4x + 5$ or $4x + 5 \leqslant -7$

$7 - (5) \leqslant 4x$ or $4x \leqslant -7 - (5)$

$2 \leqslant 4x$ or $4x \leqslant -12$

Divide each side by 4



$x \le -3$ or $x \ge \frac{1}{2}$