3. Solve the inequalities $5 < 2 + |2 - 6x|$
express your solution sets using interval notation.

$(-\frac{1}{6}, \frac{5}{6})$

$[-\frac{1}{6}, \frac{5}{6}]$

$(-\infty, -\frac{1}{6}) \cup (\frac{5}{6}, +\infty)$

$(-\infty, -\frac{1}{6}] \cup [\frac{5}{6}, +\infty)$

Solution

Intervals

Solve:

$5 < |2 - 6x| + 2$

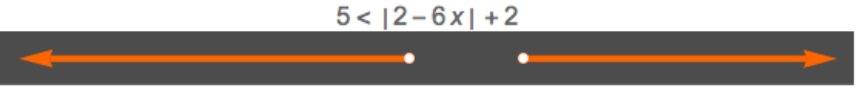
$3 < |2 - 6x|$

$3 < 2 - 6x$ or $2 - 6x < -3$

$3 - (2) < -6x$ or $-6x < -3 - (2)$

$1 < -6x$ or $-6x < -5$

Divide each side by -6 and flip the inequalities



$x < -\frac{1}{6}$ or $x > \frac{5}{6}$