

4. Solve the inequalities  $8 < 2 + |2x - 6|$   
express your solution sets using interval notation.

$(0, 6)$

$[0, 6]$

$(-\infty, 0) \cup (6, +\infty)$

$(-\infty, 0] \cup [6, +\infty)$

**Solution**

## Intervals

Solve:

$$8 < |2x - 6| + 2$$

$$6 < |2x - 6|$$

$$6 < 2x - 6 \text{ or } 2x - 6 < -6$$

$$6 - (-6) < 2x \text{ or } 2x < -6 - (-6)$$

$$12 < 2x \text{ or } 2x < 0$$

Divide each side by 2

$$8 < |2x - 6| + 2$$



$$x < 0 \text{ or } x > 6$$