

6. Solve the inequalities  $|3 - 8x| + 3 < 5$   
express your solution sets using interval notation.

$$\left[\frac{1}{8}, \frac{5}{8}\right]$$

$$\left(-\infty, \frac{1}{8}\right) \cup \left(\frac{5}{8}, +\infty\right)$$

$$\left(\frac{1}{8}, \frac{5}{8}\right)$$

$$\left(-\infty, \frac{1}{8}\right] \cup \left[\frac{5}{8}, +\infty\right)$$

**Solution**

**Intervals**

Solve:

$$|3 - 8x| + 3 < 5$$

$$|3 - 8x| < 2$$

$$-2 < 3 - 8x < 2$$

$$-2 - (3) < -8x < 2 - (3)$$

$$-5 < -8x < -1$$

Divide each side by  $-8$  and flip the inequalities

$$|3 - 8x| + 3 < 5$$

$$\frac{1}{8} < x < \frac{5}{8}$$

