

4.25
21

$$|x^2 + 5x - 6| > 3|x^2 - 4x + 3|$$

$$\begin{aligned}x^2 + 5x - 6 &> 3(x^2 - 4x + 3) \\(x+6)(x-1) - 3(x-3)(x-1) &> 0 \\(x-1)(x+6-3x+9) &> 0 \\ \downarrow & \quad \quad \downarrow \\x=1 & \quad \quad x = \frac{7}{2}\end{aligned}$$

$$\begin{array}{c}+ \\- \quad | \quad | \quad - \\ \quad 1 \quad \quad \frac{7}{2}\end{array}$$

$$\boxed{1 < x < \frac{7}{2}}$$

$$\begin{aligned}x^2 + 5x - 6 &< -3(x^2 - 4x + 3) \\(x+6)(x-1) + 3(x-3)(x-1) &< 0 \\(x-1)(x+6+3x-9) &< 0 \\ \downarrow & \quad \quad \downarrow \\x=1 & \quad \quad x = \frac{3}{4}\end{aligned}$$

$$\begin{array}{c}+ \\+ \quad | \quad | \quad - \\ \quad \frac{3}{4} \quad \quad 1\end{array}$$

$$\boxed{\frac{3}{4} < x < 1}$$