

Name: ANSWER KEY \_\_\_\_\_ points

Solve the inequality. Express your answer in terms of (1) inequalities, (2) intervals or unions of intervals, and (3) graphs.

$$\frac{3}{5x+1} \geq \frac{1}{x-3}$$

$$\frac{3}{5x+1} - \frac{1}{x-3} \geq 0$$

$$\frac{3(x-3) - (5x+1)}{(5x+1)(x-3)} \geq 0$$

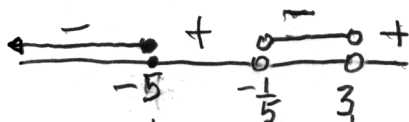
$$\frac{3x-9-5x-1}{(5x+1)(x-3)} \geq 0$$

$$\frac{-2x-10}{(5x+1)(x-3)} \geq 0$$

$$\frac{x+5}{(5x+1)(x-3)} \leq 0$$

Zeros:  $-5$

Undefined:  $-\frac{1}{5}, 3$



$x+5$	-	+	+	+
$5x+1$	-	-	+	+
$x-3$	-	-	-	+

$$(-\infty, -5] \cup (-\frac{1}{5}, 3)$$

$$x \leq -5 \text{ or } -\frac{1}{5} < x < 3$$