

Solve the following. Write your answer in interval notation.

1. $\frac{x-5}{x^2-5x+6} > 0$

2. $\frac{6}{x} + 3 \geq \frac{2}{x}$

3. $\frac{2x+1}{3x+1} < \frac{x-1}{3x+1}$

4. $1 + \frac{3x}{x-1} > 2$

5. $\frac{2x-7}{x-5} \leq 3$

6. $\frac{5}{x+2} \geq \frac{5}{x} + \frac{2}{3x}$

7. $\frac{x^2-16}{x^2-4x-5} > 0$

8. $1 - \frac{2x}{x-3} \leq \frac{1}{x+3}$

Answers: 1. $(2,3) \cup (5,\infty)$ 2. $\left(-\infty, -\frac{4}{3}\right] \cup (0,\infty)$ 3. $\left(-2, -\frac{1}{3}\right)$

4. $\left(-\infty, -\frac{1}{2}\right) \cup (1,\infty)$ 5. $(-\infty, 5) \cup [8,\infty)$ 6. $(-\infty, -17] \cup (-2, 0)$

7. $(-\infty, -4) \cup (-1, 4) \cup (5,\infty)$ 8. $(-\infty, -6] \cup (-3, -1] \cup (3,\infty)$