

Lesson 1.25 Practice

Solve each inequality.

$$1) \frac{x-7}{x-1} < 0$$

$$(1, 7)$$

$$2) \frac{x+5}{x-4} \leq 0$$

$$[-5, 4)$$

$$3) \frac{x+32}{x+6} \leq 3$$

$$(-\infty, -6) \cup [7, \infty)$$

$$4) \frac{x+68}{x+8} \geq 5$$

$$(-8, 7]$$

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

$$[-5, -3] \cup (-2, \infty)$$

$$6) \frac{x+6}{x^2-5x-24} \geq 0$$

$$[-6, -3) \cup (8, \infty)$$

$$7) \frac{10}{x-5} \geq -\frac{11}{x-6}$$

$$[-5, 5) \cup (6, \infty)$$

$$8) \frac{3}{x+7} \leq -\frac{4}{x+8}$$

$$\text{blow } (-\infty, -8) \cup (-7, -4]$$

$$9) \frac{7}{x+5} \leq -\frac{8}{x+6}$$

$$(-\infty, -6) \cup (-5, 2]$$

$$10) \frac{(x+7)(x-3)}{(x-5)^2} > 0$$

$$(-\infty, -7) \cup (3, 5) \cup (5, \infty)$$

Critical thinking question:

11) Write a rational inequality with the solution: $(-2, -1) \cup (1, \infty)$

$$\frac{(x+1)(x+2)}{x-1} > 0$$

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Solve each inequality.

$$11. \frac{2x}{x-2} \leq 3$$

$$(-\infty, 2) \cup [6, \infty)$$

$$12. \frac{1}{x+2} \geq \frac{1}{3}$$

$$(-2, 1]$$

$$13. \frac{1}{4} < \frac{7}{7-x}$$

$$(7, \infty)$$

$$14. \frac{x+2}{x+5} \geq 1$$

$$(-\infty, -5)$$

$$15. \frac{3}{x-2} \leq \frac{3}{x+3}$$

$$(-3, 3)$$

$$16. x - \frac{10}{x-1} \geq 4$$

$$[-1, 1) \cup [6, \infty)$$