

Intermediate Algebra Skill

Solving Rational Inequalities: Rational Expression with Linear Numerator and Denominator on Both sides

Solve the following Rational Inequalities:

$$1) \frac{p}{p-4} \leq \frac{p}{p-1}$$

$$2) \frac{p}{p+1} \geq \frac{p}{p-2}$$

$$3) \frac{2p}{2p+3} < \frac{p}{p-5}$$

$$4) \frac{2p+3}{3p} > \frac{2p}{3p-1}$$

$$5) 1 + \frac{x}{x+4} \geq 2 - \frac{x}{x-2}$$

$$6) 1 + \frac{x}{x-3} \leq 3 - \frac{x}{x+1}$$

$$7) \frac{y}{y-5} \leq \frac{y}{y+1}$$

$$8) \frac{y-1}{y-2} < \frac{y}{y+2}$$

$$9) \frac{2y+1}{y} \geq \frac{2y}{y+1}$$

$$10) \frac{2x}{2x+1} > \frac{x}{x-3}$$

Answers to Solving Rational Inequalities: Rational Expression with Linear Numerator and Denominator on Both sides

1) $(-\infty, 0] \cup (1, 4)$

2) $(-\infty, -1) \cup [0, 2)$

3) $\left(-\frac{3}{2}, 0\right) \cup (5, \infty)$

4) $\left(0, \frac{1}{3}\right) \cup \left(\frac{3}{7}, \infty\right)$

5) $(-\infty, -4) \cup (2, \infty)$

6) $(-\infty, -3] \cup (-1, 3)$

7) $(-\infty, -1) \cup [0, 5)$

8) $(-\infty, -2) \cup \left[\frac{2}{3}, 2\right)$

9) $\left(-1, \frac{-1}{3}\right] \cup (0, \infty)$

10) $\left(\infty, -\frac{1}{2}\right) \cup [0, 3)$