Intermediate Algebra Skill
**Solving Rational Inequalities: Rational Expression with Linear Numerator and**
**Denominator on Both sides**

Solve the following Rational Inequalities:

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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