

Intermediate Algebra Skill

Solving Rational Inequalities: Rational Expression on one side, Number on the other side

Solve the following Rational Inequalities:

$$1) \frac{w}{w+1} < 1$$

$$2) \frac{2w}{w-2} \leq 3$$

$$3) \frac{w-2}{w+5} > -2$$

$$4) \frac{3-w}{2w+1} \geq -1$$

$$5) \frac{x+1}{2x-3} > 1$$

$$6) \frac{x-5}{x} < 1$$

$$7) \frac{1}{x} > 4$$

$$8) \frac{x-1}{x-2} < 1$$

$$9) \frac{x}{x-1} > 2$$

$$10) \frac{1}{x} \leq 5$$

**Answers to Solving Rational Inequalities: Rational Expression on one side,
Number on the other side**

1) $(-1, \infty)$

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

3) $(-\infty, -5) \cup \left(-\frac{8}{3}, \infty\right)$

4) $(-\infty, -4] \cup \left(-\frac{1}{2}, \infty\right)$

5) $\left(\frac{3}{2}, 4\right)$

6) $(0, \infty)$

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

8) $(-\infty, 2)$

9) $(1, 2]$

10) $(-\infty, 0) \cup \left[\frac{1}{5}, \infty\right)$