

Solving Rational Inequalities

Period _____

1.
$$\frac{2x+4}{(x+3)(x-1)} < 0$$

2.
$$\frac{x-1}{x^2-4} < 0$$

3.
$$\frac{x+2}{x^2-9} < 0$$

4.
$$\frac{x^2-1}{x^2+1} \leq 0$$

5.
$$\frac{x^2+x-12}{x^2-4x+4} > 0$$

6.
$$\frac{x+3}{x^2-4} \geq 0$$

7.
$$\frac{1}{x+1} \leq 0$$

8.
$$\frac{1}{x+2} - \frac{2}{x-1} > 0$$

9.
$$\frac{(2x-7)(x+1)}{x+5} \geq 0$$

Review

1. Solve the equation
$$\frac{3}{x+2} - \frac{1}{x} = \frac{1}{x(x+2)}$$

2. Find the inverse of $f(x) = \sqrt{4x-7}$

Selected Answers:

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

3. $(-\infty, -3) \cup (-2, 3)$

5. $(-\infty, -4) \cup (3, \infty)$

7. $(-\infty, -1) \cup [1, 3)$

9. $[-3, -2) \cup (2, \infty)$

11. $(-\infty, 0) \cup (\sqrt[3]{2}, \infty)$

13. $(0, 2)$