

5.5 Non-linear Inequalities

Name _____

Solve and graph the solution set.

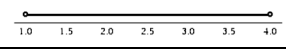
1. $x^2 - 5x + 4 < 0$

2. $x^2 - 3x - 4 < 0$

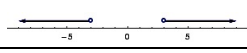
3. $x^2 - 9 > 0$

4. $x^2 - 4 > 0$

Answers: 1. (1, 4)



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



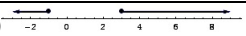
Solve and graph the solution set.

5. $x^2 - 2x \geq 3$

6. $x^2 - 10x \geq 24$

7. $x^2 + 9 < 0$

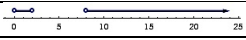
8. $x^2 + 4 < 0$

Answers: 5. $(-\infty, -1] \cup [3, \infty)$  ; 7. \emptyset

Solve and graph the solution set.

9. $\frac{3}{x-2} < \frac{4}{x}$

10. $\frac{1}{x+1} < \frac{2}{x}$

Answer: 9. $(0, 2) \cup (8, \infty)$ 

Solve and graph the solution set.

11. $\frac{x}{x+4} > \frac{1}{x+1}$

12. $\frac{x}{x+9} > \frac{1}{x+1}$

Answer: 11. $(-\infty, -4) \cup (-2, -1) \cup (2, \infty)$

