

## Solving Quadratic Inequalities

*Example*

Solve and graph the solution set:  $x^2 - 6 > -5x$

1. Write the quadratic inequality in standard form.
2. Solve the quadratic *equation* to get the critical points.
3. Plot the critical points on a number line.
4. Test a point in each interval to see which intervals belong to the solution set.
  - i)
  - ii)
  - iii)
5. State the solution set and draw the graph.

*Exercises.*

Solve and graph the solution set.

1.  $x^2 - 1 > 0$

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

3.  $9 + 3x^2 \geq 4x^2$

4.  $12x - x^2 > 36$

5.  $5x^2 > 6 - 13x$

6.  $2x^2 - 11x + 5 \geq 0$

7.  $x^2 + 9x \leq 0$

8.  $9x^2 - 18 \leq 0$

9.  $2x^2 + 4x + 2 < 0$

10.  $x^2 + 9 + 3x > 3(x + 3)$