## Solving Quadratic Inequalities



Consider the graph of $y=x^{2}-1$
We can use it to solve the inequality $x^{2}-1>0$
If you look at the graph $\mathrm{y}>0$ when $x>1$ or $x<1$

We can now use the graph to solve $x^{2}-1 \geq 3$
We add in the line of $y=3$, and we can see the solution is $x \leq-2$ or $x \geq 2$


Now try the following.

1. Use the graph of $y=x^{2}+2 x-3$ to solve $x^{2}+2 x-3 \geq 0$

2. Use the graph of $y=2 x^{2}-9 x+4$ to solve $2 x^{2}-9 x+4<0$

3. Use the graph of $y=2 x^{2}-5 x-3$ to solve $2 x^{2}-5 x-3>0$

4. Use the graph of $y=2 x^{2}+9 x+4$ to solve $2 x^{2}+9 x+4 \geq 0$

5. Use the graph of $y=2 x^{2}-5 x-3$ to solve $2 x^{2}-5 x-3>1$


4 Use the graph of $y=-x^{2}-2 x+3$ to solve $-x^{2}-2 x+3 \leq 0$

6. Use the graph of $y=2 x^{2}-3 x-2$ to solve $2 x^{2}-3 x-2<0$

8. Use the graph of $y=x^{2}-4$ to solve $x^{2}-4 \leq 5$


