Sketch the following graphs, indicating clearly where the roots are.

*y = x*2 – 2*x* – 8



*y = x*2 + 6*x* + 5



*y = x*2 + 18*x* + 65



*y =* – *x*2 + 2*x* + 8



*y = x*2– 9

Quadratic Inequalities

Example 1: Solve the inequality

Step 1: Find the roots of the equation



Step 2: Sketch the Graph

Step 3: Shade the part of the graph that satisfies the inequality

Step 4: Think about the graph ‘squashed down’

Step 5: Describe the inequality.

Step 6: Check some points to ensure they work in the original inequality

Example 2: Solve the inequality

Step 1: Find the roots of the equation



Step 2: Sketch the Graph

Step 3: Shade the part of the graph that satisfies the inequality

Step 4: Think about the graph ‘squashed down’

Step 5: Describe the inequality.

Step 6: Check some points to ensure they work in the original inequality

**Quadratic Inequalities: Worksheet**

Q1 0



-3

3

Q2



-5

-1

Q3



Q4



Q5



Q6

Q7

Q8

Q9

Hint: try to make *x*2 positive first

Q10

Hint: divide by 2 first to make

the inequality simpler

Q11

Hint: group all terms on the

same side first

Q12

Hint: 3 and 5 are prime so have limited factors