

Worksheet 3.6B
Algebra 2

Solve the inequality algebraically.

Solving Quadratic Inequalities

L151

Solve each quadratic inequality.

1) $-x^2 - 5x + 6 > 0$

$$-6 < x < 1$$

2) $-x^2 - 12x - 11 \leq 0$

$$x \leq -11$$

or

$$x \geq -1$$

3) $x^2 - 1 < 0$

$$-1 < x < 1$$

4) $x^2 - 2x - 3 \geq 0$

$$x \leq -1$$

or

$$x \geq 3$$

5) $x^2 + 4x - 5 > 0$

$$x < -5$$

or

$$x > 1$$

6) $x^2 - 5x - 6 < 0$

$$-1 < x < 6$$

7) $-x^2 + 3x + 10 \leq 0$

$$x \leq -2$$

or

$$x \geq 5$$

8) $x^2 + 8x - 9 \geq 0$

$$x \leq -9$$

or

$$x \geq 1$$

Solve the inequality algebraically.

Solving Quadratic Inequalities

L251

Solve each quadratic inequality.

1) $18x^2 + 23x + 5 \leq 0$

$$-1 \leq x \leq -\frac{5}{18}$$

Sorry

2) $12x^2 + 10x - 12 > 0$

$$x < -\frac{3}{2}$$

or

$$x > \frac{2}{3}$$

3) $-9x^2 + 29x - 6 \geq 0$

$$\frac{2}{9} \leq x \leq 3$$

4) $4x^2 + 20x - 11 < 0$

$$-\frac{11}{2} < x < \frac{1}{2}$$

5) $7x^2 + 11x + 4 > 0$

$$x < -1$$

or

$$x > -\frac{4}{7}$$

6) $17x^2 + 15x - 2 \geq 0$

$$x \leq -1$$

or

$$x \geq \frac{2}{17}$$

7) $5x^2 - 15x + 10 < 0$

$$1 < x < 2$$

8) $-8x^2 + 6x - 1 \leq 0$

$$x \leq \frac{1}{4}$$

or

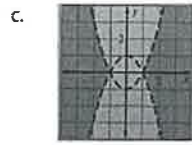
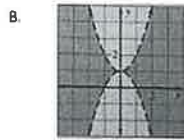
$$x \geq \frac{1}{2}$$

Match the system of inequalities with its graph.

1. $y < x^2 - 1$
 $y > -x^2 + 1$ **A**

2. $y < x^2 - 1$
 $y > -x^2 + 1$ **C**

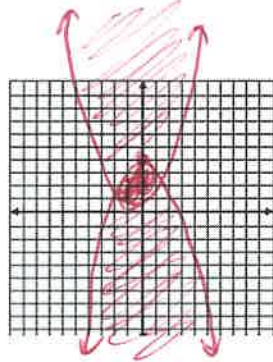
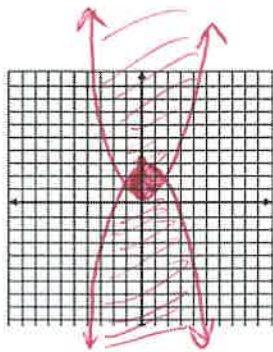
3. $y > x^2 - 1$
 $y < -x^2 + 1$ **B**



Graph the system of inequalities.

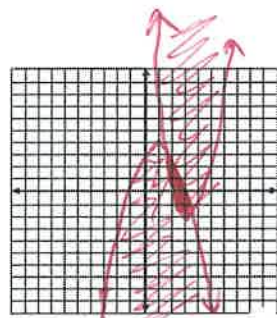
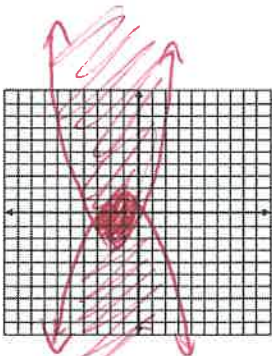
4. $y \geq x^2$
 $y \leq -x^2 + 3$

5. $y \leq -x^2 + 4$
 $y \geq x^2 + 2x + 1$



6. $y > x^2 + 4x + 1$
 $y \leq -x^2 - 2x + 1$

7. $y \geq 2x^2 - 12x + 16$
 $y < -x^2 + 2x + 3$



8. $y < x^2 + 5$
 $y > 2x^2 - 4$

9. $y > x^2 - x$
 $y < x^2 + 3$

