

1.5 Inequalities WS 2

Name _____

Use the critical value method to solve each polynomial inequality. Use interval notation to write each solution set.

1. $(x+1)(x-2)(x+4) < 0$

2. $x^2 + 9x + 20 \geq 0$

3. $x^3 - 3x^2 - 4x + 12 \leq 0$

4. $2x^2 - 32x + 78 > 0$

5. $x^3 + 2x^2 - x - 2 \leq 0$

6. $x^4 - 5x^2 \geq -4$

Use the critical value method to solve each rational inequality. Use interval notation to write each solution set.

$$7. \frac{3x+1}{x+4} > 2$$

$$8. \frac{x^2-4}{x+3} \leq 0$$

$$9. \frac{x^2-2x-3}{x+1} \geq 0$$

$$10. \frac{1}{x-3} + 4 < 0$$

$$11. \frac{x^2+x-6}{x^2-4x+3} \leq 0$$

$$12. \frac{x^2+9x+18}{x+4} \geq 0$$