

SM3 HW #4-5 (solve polynomial and rational inequalities)

Period _____

Solve each inequality. For full credit, build a sign table or a sign chart. I suggest a quick graph of the polynomials to create a sign chart. For the rational inequalities, a sign table is best.

1) $x(x+4)(x-1) \geq 0$

2) $(x-9)(x+2)(x-5) < 0$

3) $x(x-1)(x-5)(x+7) < 0$

4) $x^2(x-6)(x+4) \leq 0$

5) $(x-8)(x+1)(x+2)(x+9)(x-4) < 0$

6) $-2x(5x-3)(2x-5) \geq 0$

7) $-5(x-7)^2(x+4)(x-5)(x+7) < 0$

8) $x^3(x-4) > 0$

Solve each equation. Remember to check for extraneous solutions.

9) $\frac{1}{x} = \frac{x+2}{x^2} - \frac{2x+6}{x^2}$

10) $\frac{n-2}{3n^2} = \frac{1}{3n} - \frac{2}{n}$

11) Solve the Inequality

$$0 < \frac{(x-3)(x+3)}{(x+1)(x-1)}$$

12) Solve the Inequality

$$0 < \frac{x(x-5)}{(x+5)(x-2)}$$

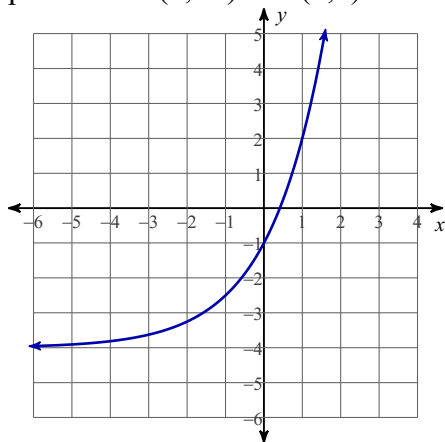
13) Solve the Inequality

$$0 \geq \frac{x^2 + 3x + 2}{x^2 - 16}$$

14) Solve the Inequality

$$0 \geq \frac{x^2 - 4x - 21}{x^2 - 4x + 4}$$

15) Write the equation that has been graphed. It passes thru (0, -1) and (1,2)



16) Write the equation that has been graphed. It passes thru (0, 300) and (1, 175)

