

Pg. 197 2.7 Nonlinear Inequalities

4 Steps:

1. Obtain zero on one side of the inequality.
2. Find the critical numbers. In other words, simply find the zeros.
3. Test values between zeros for being positive or negative
4. Determine which intervals satisfy the inequality.

Ex 1:

Solve the inequality and graph the solution on the real number line.

$$(x - 3)^2 \geq 1$$

Ex 2:

Solve the inequality and write the solution in interval notation.

$$x^3 - 4x > 0$$

Rational Inequalities

4 steps:

1. Obtain zero on one side of the inequality.
2. Find the critical numbers.
Find the zeros of both the numerator and denominator.
3. Test values between zeros for being positive or negative.
4. Determine which intervals satisfy the original inequality.

Note: Do not include the zero that makes the function undefined in the solution.

Ex 3:

Solve the inequality and graph the solution on the real number line.

$$\frac{5+7x}{1+2x} \leq 4$$

Assignment 2.7

Pg. 204 Vocab #'s 1,2 Problem Set #'s 1-45 ODD, 69, 75

REQUIRED: Vocab, 11, 23, 25, 27, 39, 45, 69, 75