Stony Brook University Mathematics Department Oleg Viro Seminar in Mathematics Teaching/Learning MAT 519 February 9, 2011

Test 2

Name

1. Solve the equation |x + 3| + |x - 2| = 5.

2. Draw the graph of the function y = |x+3| - |x-2| 3. What is wrong with the following chain of equalities?

$$\log(x^2 - 6x + 9) = \log(x - 3)^2 = 2\log(x - 3).$$

4. What is wrong in the following solution of the equation $x = \sqrt{x+2}$? $x = \sqrt{x+2} \iff x^2 = x+2 \iff x^2 - x - 2 = 0 \iff x = -1 \text{ or } x = 2.$

How to make it correct?