TEST 02 (A) – 3.4. 2012

Solve the following problems in the real domain.

1.
$$|x-1|+|x-2|<x$$
$[(1,3)]$

2.
$$\big|x-|x-2|\big|>1$$
$[(-\infty,\tfrac{1}{2})\cup(\tfrac{3}{2},\infty)]$

3.
$$\frac{x^2-4}{x+3}<2$$
$[(-\infty,-3)\cup(1-\sqrt{11},1+\sqrt{11})]$

4.
$$\frac{x^2+2}{x+1}>x$$
$[(-1,2)]$

5.
$$2^{2x}-2\cdot 2^x=-1$$
$[0]$

6.
$$3^x+3^{-x}=3$$
$\left[\frac{\log\left(\frac{3+\sqrt{5}}{2}\right)}{\log 3},\frac{\log\left(\frac{3-\sqrt{5}}{2}\right)}{\log 3}\right]$

TEST 02 (B) – 3.4. 2012

Solve the following problems in the real domain.

1.
$$|x-2|+|x+1|<2x$$
$[(\tfrac{3}{2},\infty)]$

2.
$$\big|x-|x-1|\big|+x>1$$
$[(-\infty,0)\cup(\tfrac{2}{3},\infty]$

3.
$$\frac{x^2+4}{x+3}<2$$
$[(-\infty,-3)\cup(1-\sqrt{3},1+\sqrt{3}]$

4.
$$\frac{x+2}{x^2+1}>1$$
$[(\tfrac{1}{2}-\tfrac{1}{2}\sqrt{5},\tfrac{1}{2}+\tfrac{1}{2}\sqrt{5})]$

5.
$$3^{2x}-2\cdot 3^x=-1$$
$[0]$

6.
$$5^x+5^{-x}=5$$
$\left[\frac{\log\left(\frac{5+\sqrt{21}}{2}\right)}{\log 5},\frac{\log\left(\frac{5-\sqrt{21}}{2}\right)}{\log 5}\right]$