Name: SOLUTIONS

Math 1260 Quiz #3 - May 22, 2006

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

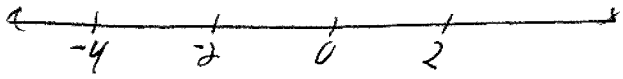
$$\frac{8}{x^2+2x} > 1$$

Denominator is 0 at $x=0$, $x=-2$.

Solve $\frac{8}{x^2+2x} = 1$ $\quad 8 = x^2+2x$

$x^2+2x-8=0$

$(x+4)(x-2)=0$ $\quad x=2,-4$



2 and -4 give equality so not solutions.

Test -5 $\quad \frac{8}{25-10} = \frac{8}{15} < 1$ NO

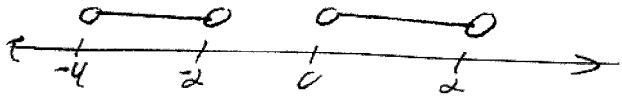
-3 $\quad \frac{8}{9-6} = \frac{8}{3} > 1$ yes

-1 $\quad \frac{8}{1-2} = -8 > 1$ NO

1 $\quad \frac{8}{1+2} = 8/3 > 1$ yes

3 $\quad \frac{8}{9+6} = \frac{8}{15}$ NO

Thus $(-4,-2) \cup (0,2)$



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

$$-1 \le \frac{5y+2}{3} < 4$$

$-3 \le 5y+2 < 12$

$-5 \le 5y < 10$

$-1 \le y < 2$