MASSACHUSETTS MATHEMATICS LEAGUE
CONTEST 1 - OCTOBER 2007
ROUND 5 INEQUALITIES & ABSOLUTE VALUE

ANSWERS

A) _____

B) _____

C) _____

A) Find the area of the region defined by $\begin{cases} y \le |x| \\ x \le 2 \\ x \ge -1 \\ y \ge 0 \end{cases}$

B) Solve for x over the reals. $\dfrac{|x-3|(x-4)}{(x+5)^3} \ge 0$

C) Determine the set of values of x (over the reals) for which the following inequality is satisfied:

$$\frac{1}{x} \le \frac{1}{x-1} - \frac{1}{2}$$