

PROBLEM-OF-THE-DAY: ALGEBRA 1

WEEK: February 25 to February 29

Day: Monday

RISD Objective: Provided a system of equations or a word problem which can be modeled by a system, students will solve the problem graphically, or by using substitution, or by using elimination.

PROBLEM #109

The Drama Club sold 330 tickets to their spring production. Advance tickets were \$5.00 and tickets at the door were \$7.50. If the Drama Club collected \$1980.00, how many tickets did they sell at the door?

MODEL SOLUTION #109

I'm going to solve by elimination.

Let A = Advanced tickets

Let D = Door tickets

$$\left\{ \begin{array}{l} A + D = 330 \\ 5A + 7.50D = 1980 \end{array} \right. \longrightarrow \begin{array}{l} -5(A + D) = -5(330) \\ -5A - 5D = -1650 \end{array}$$

$$\left\{ \begin{array}{l} -5A - 5D = -1650 \\ \underline{5A + 7.50D = 1980} \\ 2.50D = 330 \\ D = 132 \end{array} \right.$$

There were 132 tickets sold at the door.