

PROBLEM-OF-THE-DAY: ALGEBRA 1

WEEK: February 25 to February 29

Day: Tuesday

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 #110

Mike Mustang owns 20 vehicles. He has forgotten how many cars and motorcycles he owns. But he knows that there are a total of 66 wheels. How many cars and motorcycles are there?

MODEL SOLUTION #110

I'm going to solve by substitution.

Let C = the number of cars

Let M = the number of motorcycles

$$\left\{ \begin{array}{l} C + M = 20 \\ 4C + 2M = 66 \end{array} \right. \longrightarrow M = 20 - C$$

$$4C + 2(20 - C) = 66$$

$$4C + 40 - 2C = 66$$

$$2C + 40 = 66$$

$$\underline{-40 \quad -40}$$

$$2C = 26$$

$$C = 13$$

$$13 + M = 20$$

$$M = 7$$

Mike has 13 cars and 7 motorcycles.