

PROBLEM-OF-THE-DAY: ALGEBRA 1

WEEK: September 10 to September 14

DAY: Friday

RISD Objective: Given a first-degree equation (or word problem which can be modeled by a first-degree equation), students will use the properties of equality to solve the equation.

PROBLEM #19

Marla is four years less than twice as old as Darla. If the sum of their ages is 47, how old is Marla? Explain and show your work.

MODEL SOLUTION #19

Since I know least about Darla, I will represent her age by the variable, “ d ”. Since Marla is four years less than twice as old as Darla, her age can be represented by the expression $2d - 4$. Algebraically speaking, I would write:

Let $d =$ Darla’s age
 $2d - 4 =$ Marla’s age

Since the sum of their ages is 47, the equation involving the sum of their ages is

$$\begin{aligned}d + (2d - 4) &= 47 \\3d - 4 &= 47 \\3d &= 51 \\d &= 17\end{aligned}$$

So, Darla is 17. But Marla is $2d - 4$, which is $2(17) - 4$, which is $34 - 4 = 30$.

Therefore, Marla is 30 years old.