

**PROBLEM-OF-THE-DAY: ALGEBRA 1****WEEK:** February 11 to February 14  
Wednesday**Day:**

**RISD Objective:** Given a problem which calls for operations with polynomials, students will add, subtract, multiply, or factor the polynomial according to the context of the problem.

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**PROBLEM #103**

Let  $f$  represent Fran's age. Since Stan is four years older than twice Fran's age, an expression that represents his age would be  $2f + 4$ . Since Jan is one year less than three times Fran's age, an expression that would represent Jan's age would be  $3f - 1$ . Since Dan is eight years older than Fran, an expression that would represent his age would be  $f + 8$ . Write a simplified expression that represents the sum of the ages of Dan, Fran, Jan, and Stan. Show your work and explain your answer.

**MODEL SOLUTION #103**

Since I am asked to find the sum of their ages, then I must add the expressions that represent their ages together. When adding these polynomials, I must combine like terms to find the answer. Here is my work:

$$\begin{aligned}(f + 8) + f + (3f - 1) + (2f + 4) \\(f + f + 3f + 2f) + (8 - 1 + 4) \\7f + 11\end{aligned}$$

So, the sum of their ages can be represented by the expression  $7f + 11$ .