**KEY**
**Problem**—Calculating Calories

**Problem**
Calories come from carbohydrates, protein and fats found in foods. Per gram, carbohydrates and protein each provide 4 calories, while fat provides 9 calories.

Write an equation for finding what percent of your total calories come from fat if X = grams of fat, Y = grams of protein, and Z = grams of carbohydrates

Equation: **9(Z) / 4(X) + 4(Y) +9(Z) = % Calories from Fat**

**Calories from Fat / Total Calories = % Calories from Fat**

Nutritionists recommend that no more than 25-30% of people's total calories per day come from fat. Use your equation to find what percent of the following diets comes from fat calories. Which diet(s) meet nutritionists' recommendations?

Tom: 110 grams fat, 90 grams protein, 540 grams carbohydrates

**9(110) / 4 (90) + 4 (540) + 9 (110) = .28**
**990 / 360 + 2160 + 990**
**990 / 3186 = 28%**

Jenny: 65 grams fat, 60 grams protein, 350 grams carbohydrates

**9(65) / 4 (60) + 4 (350) + 9 (65) = .44**
**990 / 240 + 1400 + 585**
**990 / 2225 = 44%**

Lynn: 50 grams fat, 45 grams protein, 300 grams carbohydrates

**9(50) / 4 (45) + 4 (300) + 9 (50) = .25**
**450 / 180 + 1200 + 450**
**450 / 1830 = 25%**

**Lynn and Tom meet the 25-30% guideline**

**What will you need?**
Problem
Calculators

**How will you be evaluated?**

Key with correct answers

Created by Jean Clarke, Emery High School, SD, 2005