

# Modeling and Problem Solving

Name \_\_\_\_\_

Date \_\_\_\_\_ Block \_\_\_\_\_

## PART 1

**For the following word problems, define variables and set up an equation. Do NOT solve.**

1. The length of a rectangular field is 6 m less than twice the width. The perimeter is 312 m. Find the width and length.
2. The sum of two numbers is 110. The larger number is 2 less than 7 times the smaller. Find the larger number.
3. Romeo ordered a bouquet of roses for his girlfriend. Each rose cost \$2.95 and the delivery charge was \$8.50. If the total cost was \$61.60, how many roses did Romeo order?
4. A banana has 90 calories. This is 5 calories less than one seventh of the calories in a banana split. How many calories in a banana split?
5. One half of a certain even integer plus one fifth of the next consecutive even integer equals 48. Find the two integers.

## PART 2

Define variables, set-up, and solve.

- 1) Jack is thinking of a number. Eight more than the product of 5 and the number is 93. Find Jack's number.
  
- 2) Papa John is 50 years old. His age is 2 years more than 3 times the age of Jimmy John. How old is Jimmy?
  
- 3) The Backpacking Club is having some posters printed. The printer charges \$180 plus \$2.50 per poster. How many posters can be printed for \$1000?
  
- 4) Mega Middle School had a Valentine Dance. Four fifths of the students plus 7 teachers were there. If there were 495 people at the dance, how many students attend the school?
  
- 5) The temperature in Frostport is  $8^{\circ}\text{F}$  and dropping at the rate of 3.5 degrees per hour. How many hours will it be until the temperature is  $-20^{\circ}\text{F}$ ?