Algebra I   Worksheet #1   Unit 3   Selected Solutions

Solve each of the following problems algebraically. For each problem, you **must**
- a. **represent** all unknowns in terms of the same variable,
- b. write an **equation** for the problem,
- c. **solve** your equation showing your steps neatly organized, and
- d. **answer** the question using a <u>complete sentence</u>.

1. One number is three more than another. Their sum is 75. What are the numbers?

smaller number: x

larger number: x + 3

$$x + x + 3 = 75$$
$$2x + 3 = 75$$
$$2x = 72$$
$$x = 36$$
$$x + 3 = 39$$

The numbers are 36 and 39.

6. One number is nine less than five times another. Their sum is 81. What are the numbers?

smaller number: x

larger number: 5x ó 9

$$x + 5x \text{ ó } 9 = 81$$
$$6x \text{ ó } 9 = 81$$
$$6x = 90$$
$$x = 15$$
$$5x \text{ ó } 9 = 66$$

The numbers are 15 and 66.

9. Tom and Mary received a total of $930. The amount that Tom received was $50 more than three times the amount that Mary received. How much did each person receive?

Mary: x

Tom: 3x + 50

$$x + 3x + 50 = 930$$
$$4x + 50 = 930$$
$$4x = 880$$
$$x = 220$$
$$3x + 50 = 710$$

Mary received $220.
Tom received $710.