Algebra I   Worksheet #6   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. The sum of three consecutive whole numbers is 78. What are the whole numbers?

x $3x + 3 = 78$
$x + 1$ $3x = 75$ **They are 25, 26, and 27.**
$x + 2$ $x = 25$

3. The sum of three consecutive odd whole numbers is 123. What are the whole numbers?

x $3x + 6 = 123$
$x + 2$ $3x = 117$ **They are 39, 41, and 43.**
$x + 4$ $x = 39$

5. A burger costs 19¢ more than a hot-dog. Five burgers and three hot-dogs cost a total of $5.75.
How much does each item cost?

 cost of 1 burger : $x + 19$ (cents) $5(x + 19) + 3x = 575$
 cost of 1 hot-dog : x (cents) $5x + 95 + 3x = 575$
                                 $8x + 95 = 575$
                                  $8x = 480$
                                   $x = 60$
                                  $x + 19 = 79$

A burger costs 79¢, and a hot-dog costs 60¢.

6. Ann and Mark drive toward each other from places that are 300 miles apart. Ann averages 35
miles per hour, while Mark averages 40 miles per hour. If they both start driving at 1:00 PM, then
at what time will they meet?

	driving time (hours)	rate (mph)	distance (miles)
Ann	x	35	$35x$
Mark	x	40	$40x$

$35x + 40x = 300$
$75x = 300$
$x = 4$ hours

total distance :   300

They both left at 1:00 PM and drove for 4 hours,
They will meet at 5:00 PM.