Section 3.2 Worksheet **Name_____**
Using Function Notation

Write each function in function notation. Then find the designated values.

1. $2x - 4y = 12$ _____ Find $f(4)$ _____

2. $2x + 6y = 18$ _____ Find $f(-5)$ _____

Read each situation and answer the following.

3. The function $C(x) = 20x + 100$ describes the cost of producing audio tapes of live productions, where $100 is the studio rental and $20 is the cost of producing each tape. The independent variable in this function is _____ and the dependent variable is _____. What is the cost of production for the Red Hatters if they record a new song and 2000 tapes are produced? _____

4. Joan paid $2.80 for 2.5 lb. of hamburger. Write a function equation that allows the calculation of the cost of hamburger based on buying any number of pounds. (Hint: find the unit rate.) _____
How much will she pay if she buys 1 ¼ lb. of hamburger? _____

5. Forensic anthropologists can determine the height of a man from the length of his femur. The function used to predict a man's height in centimeters is $h(x) = 2.32x + 65.53$ where x is the length of the femur in centimeters. If the remains of an early caveman are found and his femur measures 38.45 cm, approximately how tall in cm was this caveman? Divide this total by 2.54 cm to determine his height in inches.

6. A house initially costs $90,000. The value, V, of the house after n years if it appreciates at a constant rate of 4.5% per year can be determined by the function
$V = f(n) = \$90{,}000(1.045)^n$.

a. Determine $f(10)$ and explain its meaning. _____

b. After how many years is the value of the house greater than $160,000? _____

7. Professionals who later decide to begin a teaching career may enter the teaching profession through a program called lateral entry. Lateral entry teachers can receive a salary that is comparable to their number of years they worked in their field. Therefore their salary will be a function of the years of experience they possess in a non-teaching career. The base salary list for North Carolina is shown in the table below.

Yrs. of Exp.	0	1	2	3	4	5	6	7
Salary	$25,000	$25,420	$25,850	$27,370	$28,750	$30,060	$31,330	$32,340

Source: NC Department of Public Instruction (2001)

Using the table, find $f(4)$ and explain what it means. _____