Section 2.5: AN INTRODUCTION TO PROBLEM SOLVING
When you are done with your homework you should be able to...
$\pi$ Translate English phrases into algebraic expressions
$\pi$ Solve algebraic word problems using linear equations

## WARM-UP:

Solve:
A fax machine regularly sells for $\$ 380$. The sale price is $\$ 266$. Find the percent decrease in the machine's price.

## ACTIVITY

1. Get three index cards from the front table.
2. Find the people holding the matching cards.
3. Write the missing information on the other side of the card and fill in the table.

## ALGEBRAIC TRANSLATIONS OF ENGLISH PHRASES

ALGEBRAIC EXPRESSION
ADDITION

SUBTRACTION

MULTIPLICATION

## DIVISION

MORE THAN ONE OPERATION

## STEPS FOR SOLVING WORD PROBLEMS

1. Analysis: READ the problem. Then, $\qquad$ the problem again!!!

Draw a $\qquad$ and/or make a $\qquad$ Identify
and name all known and unknown $\qquad$ .
2. Translate to Mathese: Write an equation that translates, or $\qquad$
the conditions of the problem.
3. Solve: $\qquad$ the equation. Then $\qquad$ your
solution.
4. Conclusion: Write your result, in $\qquad$ .

Example 1: Solve the following word problems.

1. The sum of a number and 28 is 245 . Find the number.
2. Three times the sum of five and a number is 48 . Find the number.
3. Eight subtracted from six times a number is 298. Find the number.
4. If the quotient of three times a number and four is decreased by three, the result is nine. Find the number.
5. A car rental agency charges $\$ 180$ per week plus $\$ 0.25$ per mile to rent a car. How many miles can you travel in one week for $\$ 395$ ?
6. A basketball court is a rectangle with a perimeter of 86 meters. The length is 13 meters more than the width. Find the width and length of the basketball court.
7. This year's salary, $\$ 42,074$, is a $9 \%$ increase over last year's salary. What was last year's salary?
8. A repair bill on a sailboat came to $\$ 1603$, including $\$ 532$ for parts and the remainder for labor. If the cost of labor is $\$ 35$ per hour, how many hours of labor did it take to repair the sailboat?
