

## Verbal Expression and Variable Expression

**Objective A: To translate a verbal expression into a variable expression**

Math Operations	Verbal Phrases
Multiplication	Times The product of Multiplied by Of Twice
Division	Divided by The quotient of The Ratio of
Addition	More than Added to The Sum of The Total of Increased by
Subtraction	Less Than The difference between Minus Decreases by
Power	The Square of or the Second Power of The cube of or the Third power of The fifth power of

### Some Illustrations:

Example 1: Translate three times the sum of c plus 5 into a variable expression:

$$\rightarrow 3(c+5)$$

Example 2: The sum of two numbers is thirty-seven. If x represents the smaller number, translate “ twice the larger number” into a variable expression.

→ Assuming two numbers: X and  $X_1$

$$\rightarrow X + X_1 = 37$$

→ Smaller number: X and larger number  $37 - X$

$$\rightarrow 2(37 - X)$$

**Objective B: To Solve Application Problems:**

The majority of the mathematics applications require that you identify the unknown quantity, assign a variable to the quantity, and then attempt to express other unknowns in terms of that quantity.

Illustrations:

1. A cyclist is riding a rate that is twice the speed of a runner. Express the speed of the cyclist in terms of the speed of the runner.

Let the speed of the runner be  $R$ .

Therefore, the speed of the cyclist is twice:  $2R$ .

2. In a survey of listener preferences for AM or FM radio stations, one third of the number of people surveyed preferred Am stations. Express the number of people who preferred AM stations in terms of people surveyed.

Let the number of people surveyed be  $X$

Therefore, the number of people who preferred Am stations is  $1/3 X$ .