WORD PROBLEMS IN ALGEBRA

How to start a word problem:

(1) Read the problem all the way through to see what kind of problem it is.

(2) Look for a question at the end of the problem.

(3) Start every problem with "Let x = something." Let x equal what you are trying to find.

(4) If you have to find more than one unknown quantity, let x equal the smallest unknown.

(5) Go back and read the problem again. Translate the problem from words to symbols a piece at a time.

How to translate:

Word Statement	Algebra Symbol
(1) Twice as much as the unknown	2x
(2) Two less than the unknown	x - 2
(3) Five more than the unknown	x + 5
(4) Three more than twice the unknown	2x + 3
(5) A number decreased by 7	x - 7
(6) Ten decreased by the unknown	10 - x
(7) Sheri's age (x) 4 years from now	x + 4
(8) Dan's age (x) 10 years ago	x - 10
(9) Number of cents in x quarters	25x
(10) Number of cents in 2x dimes	10 (2x)
(11) Number of cents in x + 5 nickels	5 (x + 5)
(12) Separate 17 into two parts	x and 17 - x
(13) Distance traveled in x hours at 50 mph	50x
(14) Two consecutive integers	x and x + 1
(15) Two consecutive even integers	x and x + 2
(16) Two consecutive odd integers	x and x + 2
(17) Interest on x dollars for 1 year at 5%	0.05x
(18) $20,000 separated into two investments	x and $20,000 - x
(19) Distance traveled in 3 hours at x mph	3x
(20) Distance traveled in 40 minutes at x mph (40 minutes = 2/3 hours)	(2x)/3

(21)	Sum of a number and 20	x + 20
(22)	Product of a number and 3	3x
(23)	Quotient of a number and 8	x/8
(24)	Four times as much	4x
(25)	Three is four more than a number	3 = x + 4

Facts to remember:

(1) Times as much means multiply.

(2) More than means add.

(3) Decreased by means subtract.

(4) Increased by means add.

(5) Separate 28 into two parts means find two numbers whose sum is 28.

(6) Percent of means multiply.

(7) Is, was, will be, become equal signs (=) in algebra.

(8) If 7 exceeds 2 by 5, then 7 – 2 = 5. Exceeds become a minus sign (-) and by becomes an equals sign (=).

(9) No unit labels (feet, degrees, $) are used in equations. Just refer to "Let x =" statement to find the unit label for the answer.

(From: *How to Solve Word Problems in Algebra: A Solved Problem Approach,* by Mildred Johnson, McGraw Hill Book Company.)