

WORD PROBLEMS

Reference Book: HOW TO SOLVE WORD PROBLEMS IN ALGEBRA: A solved problem approach by Mildred Johnson.

How to start to work a word problem:

1. READ THE PROBLEM all the way through quickly, to see what kind of word problem it is and what it is about.
2. Look for a QUESTION at the end of the problem. This is often a good way to find what you are solving for. Sometimes 2 or 3 things need to be found.
3. START EVERY PROBLEM with "Let x = something". Let x equal what you are trying to find. What you are trying to find is USUALLY stated in the QUESTION at the end of the problem. If you have more than one unknown quantity try to determine the smallest unknown. This unknown is often the one to let x equal.
4. Go back and READ THE PROBLEM OVER AGAIN. This time read it a piece at a time. Simple problems usually have two statements. One statement helps you set up the unknowns, and the other gives you equation information. TRANSLATE the problems from words to symbols A PIECE AT A TIME.

HOW TO TRANSLATE SOME STATEMENTS

Let x = the unknown

x =

1.	twice as much as x	means	$2x$
2.	two less than x	means	$x - 2$
3.	five more than x	means	$x + 5$

4.	three more than twice x	means	$2x + 3$
5.	a number decreased by 7	means	$x - 7$
6.	ten decreased by a number	means	$10 - x$

7.	sheri's age 4 years from now	means	$x + 4$
8.	Dan's age 10 years ago	means	$x - 10$
9.	number of cents in x quarters	means	$25x$

10.	number of cents in $x + 5$ dimes	means	$10(x + 5)$
11.	separate 17 into 2 parts	means	$x + y = 17$ or x and $17 - x$
12.	distance traveled in x hrs at 50 mph	means	$50x$
13.	two consecutive integers	means	x and $x + 1$
14.	two consecutive even integers	means	x and $x + 2$
15.	\$20,000 separated into two investments	means	x and $\$20,000 - x$
16.	distance traveled at x mph for 40 minutes (40 minutes = $\frac{2}{3}$ hour)	means	$\frac{2}{3}x$
17.	sum of a number and 20	means	$x + 20$
18.	product of a number and 3	means	$3x$
19.	quotient of a number and 8	means	$\frac{x}{8}$
20.	three is four more than a number	means	$3 = x + 4$

PHRASES

1. TIMES, AS MUCH _____ multiply
2. MORE THAN _____ add
3. DECREASED BY _____ subtract
4. INCREASED BY _____ add
5. PERCENT OF _____ multiply
6. IS, WAS, WILL BE _____ =
7. PRODUCT OF _____ multiply
8. OF, USUALLY means x when it is alone
9. HALF OF or HALF _____ $\frac{1}{2}x$ or $\frac{1}{2}$ times x
10. DOUBLE _____ times 2 or $2x$