

# R

## STRATEGIES FOR SOLVING MATH WORD PROBLEMS

---

The key to solving math word problems is to have a plan or strategy that works in any math word problem solving situation. The following 12 tips are provided to help you to become a better problem solver.

1. Read the problem carefully, looking for clues and important information. Write down the clues, or underline or highlight the clues.
2. If necessary, rewrite the problem to help find these clues.
3. Look for clues to determine which math operation is needed to solve the problem; for example, addition, subtraction, etc. Look for key words like sum, difference, product, perimeter, area, etc. These clues lead to the operation needed to solve the problem. (See back for the translation of English words and terms into algebraic expressions.)
4. Look for what is needed to solve the problem; for example, how many are left, the total will be, everyone gets one of each, etc.
5. Use variables, such as  $X$ , for missing information.
6. Eliminate all non-essential information by drawing a line through distracting information.
7. Use or create sketches, drawings, and models to see the problem.
8. Determine whether the word problem is similar to a previous problem or example. If so, how was the previous problem solved? You may want to search the Internet for similar examples to the problem you are trying to solve.
9. Develop a plan based on the information determined to be important for solving the problem.
10. Carry out the plan using the math operations which were determined to be necessary to the answer.
11. Always ask if the answer seems reasonable, and if it does, it is probably OK--but always check your work.
12. Work the problem in reverse or backwards, starting with the answer to see if you wind up with your original problem.

**Remember, you can always get assistance with math from a tutor  
in Ranken's Student Success Center.**

Translating English Terms Into Algebraic Symbols					
Sum	+	Difference	-	Quantity	( )
Add	+	Diminished	-	Is	=
In addition	+	Remainder	-	Was	=
More than	+	Times as much	x	Equal	=
Increased	+	Percent of	x	Will be	=
In excess	+	Product	x	Result	=
Greater	+	Interest on	x	Greater than	>
Decreased by	-	Per	/	Greater than or equal to	$\geq$
Less than	-	Divide	/	Less than	<
Subtract	-	Quotient	/	Less than or equal to	$\leq$

Translating English Words Into Algebraic Expressions			
Ten more than x	$x + 10$	Five is three more than a number	$5 = x + 3$
A number added to 5	$5 + x$	The product of 2 times a number is 10	$2x = 10$
A number increased by 13	$x + 13$	One half a number is 10	$x/2 = 10$
5 less than 10	$10 - 5$	Five times the sum of x and 2	$5(x + 2)$
A number decreased by 7	$x - 7$	Seven is greater than x	$7 > x$
Difference between x and 3	$x - 3$	Five times the difference of a number and 4	$5(x - 4)$
Difference between 3 and x	$3 - x$	Ten subtracted from 10 times a number is that number plus 5	$10x - 10 = x + 5$
Twice a number	$2x$	The sum of 5x and 10 is equal to the product of x and 15	$5x + 10 = 15x$
Ten percent of x	$0.10x$	The sum of two consecutive integers	$(x) + (x + 1)$
Ten times x	$10x$	The sum of two consecutive even integers	$(x) + (x + 2)$
Quotient of x and 3	$x/3$	The sum of two consecutive odd integers	$(x) + (x + 2)$
Quotient of 3 and x	$3/x$		