

Word Translations

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There is nothing more important in mathematics than to be able to translate English to math. Vocabulary is very important to understanding and communicating. Without knowing what words mean, we'll certainly have trouble answering questions.

Listed below are examples of statements translated to algebra. It's very important that you are familiar with these expressions and their translations so you won't later confuse algebraic difficulties with vocabulary deficiencies.

| STATEMENT | ALGEBRA |
|--|-------------|
| twice as much as a number | $2x$ |
| two less than a number | $x - 2$ |
| five more than an unknown | $x + 5$ |
| three more than twice a number | $2x + 3$ |
| a number decreased by 6 | $x - 6$ |
| ten decreased by a number | $10 - x$ |
| Tom's age 4 years from now | $x + 4$ |
| Tom's age ten years ago | $x - 10$ |
| number of cents in x quarters | $25x$ |
| number of cents in $2x$ dimes | $10(2x)$ |
| number of cents in $x + 3$ nickels | $5(x + 3)$ |
| separate 15 into 2 parts | $x, 15 - x$ |
| distance traveled in x hrs at 50 mph | $50x$ |
| two consecutive integers | $x, x + 1$ |
| two consecutive odd integers | $x, x + 2$ |
| sum of a number and 30 | $x + 30$ |
| product of a number and 5 | $5x$ |
| quotient of a number and 7 | $x \div 7$ |
| four times as much | $4x$ |
| two less than 3 times a number | $3x - 2$ |

By familiarizing yourself with these expressions, you'll look forward to solving word problems. We have already identified and used strategies for solving linear equations in one variable. In word problems, all we do that is different is make our own equations. Piece of cake, do you think?

The easiest and best way to learn vocabulary is to read your textbook. How you do on standardized tests will often be determined by your math vocabulary. College entrance exams, the ACT and SAT, use correct terminology so you best get used to it. Where your teacher might ask you to solve an equation, on a standardized test you will be asked to find the solution set.

Algorithm for Problem Solving

1. Read the problem through to determine the type of problem
2. Reread the problem to identify what you are looking for and label it. Often times there is more than one thing to be found
3. If you have to find more than one unknown, determine the SMALLEST and label that as x
4. Reread the problem. The other unknowns should be written in terms of x
5. Reread the problem to make an equation, use some fact or relationship involving your variables
6. Solve the equation and check your answer to the original problem

During your first year of algebra, you will learn how to set up different types of problems including, uniform motion, age, coin, mixture, geometry, number and investment. Like everything else in life, the more you do, the more comfortable and confident you will become. These learned formats should give you an idea how to set up and solve problems that you have not encountered in class.

Probably the most important thing to remember is most of us have to read a word problem 4, 5 or 6 times to get all the information and make an equation that describes the relationship.

If there is any one trick to make your work easier, it is to write the smallest quantity as x and the other unknown in terms of x .

Study the word translations!