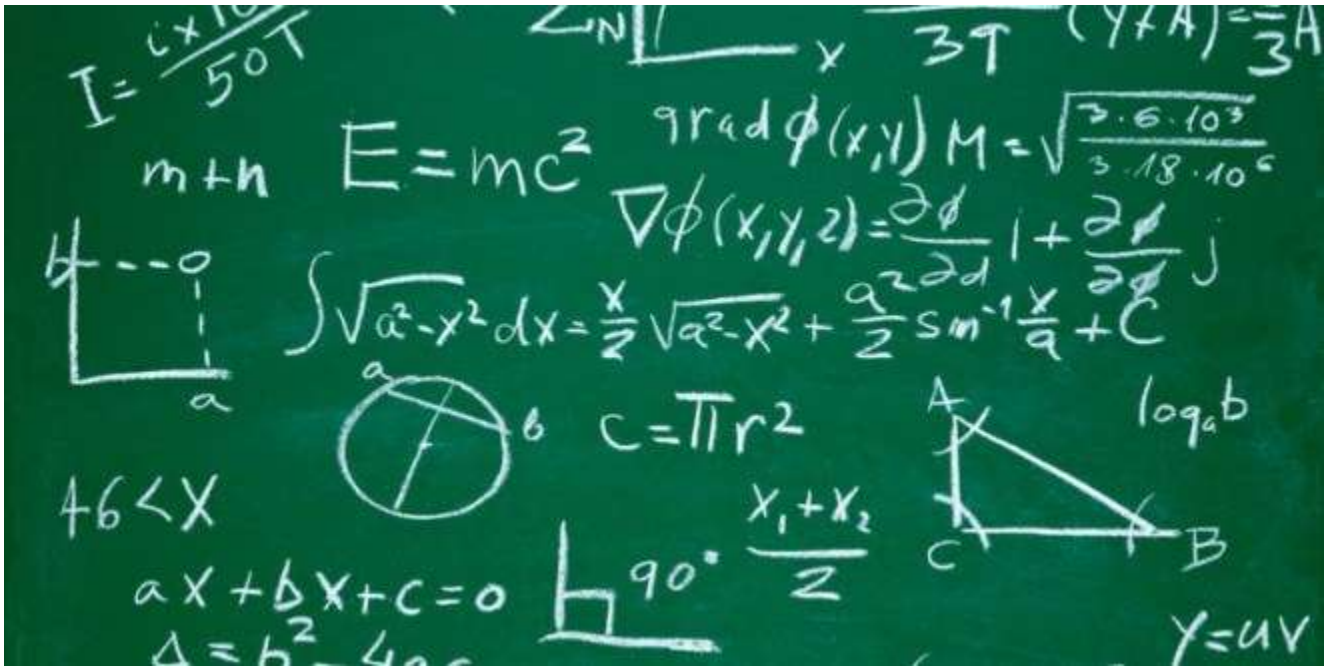
Aptitude and Reading examination

Prep sheet

Ctrl and click to follow these links

What is an Electrician Apprentice and How to Become One
Is Being An Electrician Dangerous?
What Is A Journeyman Electrician
Basic Functions and Use of A Digital Multimeter
How to Figure Out Circuit Numbers By Color

Apprentice Job Description



Preparing for the IBEW Aptitude Test

What Is An Aptitude Test?

Aptitude tests are one of the most commonly used assessments in measuring a candidate's suitability for a role.

The IBEW wants to ensure that their candidates have a solid ability to comprehend written text, basic algebra, and have some mechanical aptitude.

The aptitude test primarily applies to the Inside Wireman and the Limited Energy Technician apprenticeship programs.

The IBEW aptitude test consists of two parts – math and reading.

Math

The math portion covers algebra and functions with a total of 33 questions that must be answered within 46 minutes.

Now, along with the math portion you will most likely see some mechanical questions. These questions may ask about pulleys, how loads are distributed, the best way to balance a load being hoisted, and basic mechanical theory.

Just remember that you must to have a balanced load (meaning the weight is centered), and more lines hoisting a load with a pulley means less stress on the ropes or cables.

Reading

The reading portion covers comprehension with a total of 36 questions that must be answered within 51 minutes. This measures your ability to obtain information from written passages. You'll read a lengthy bit of text and then have to answer specific questions about the text.

Scoring

The test is scored from 1 to 9, with 9 being the highest possible score. Most apprenticeships require a qualifying score of at least a 4 to be considered for an interview.

Aptitude Test Rules

Bring a photo ID to the test. Your ID will be checked. No ID, no test-no exceptions!

Arrive 15 minutes before the scheduled test time. Late entries will not be permitted. A late show is the same as a "No Show". There might be a rescheduling fee.

Do not bring a calculator. Pencils and scrap paper are provided for computation.

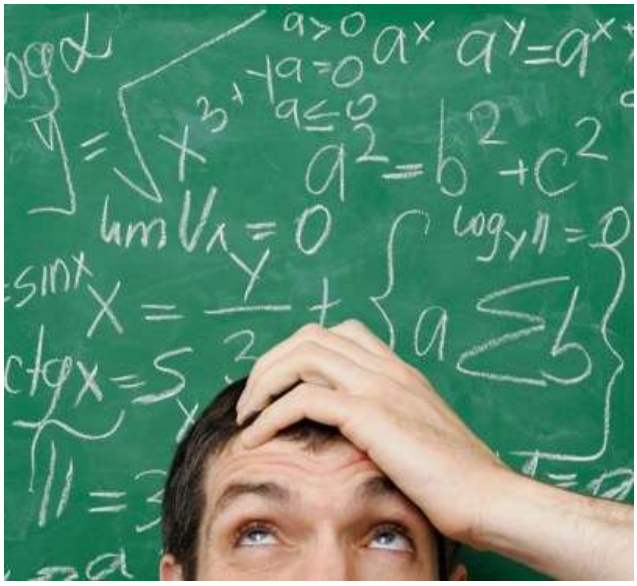
If you do not receive a qualifying score you will not be eligible to retake the test (at any JATC in the country) for a period of six months.

The NJATC is very serious about this. If you retest before the six month period elapses, your score will not be valid and another six months must elapse before the next retest.

Test Time

You can expect the test to take approximately two and a half hours to complete with a break between the algebra and reading portion.

IBEW Aptitude Test Questions



We've put together free learning videos to help you prepare for the math portion of the IBEW NJATC aptitude test.
We recommend you watch all the videos we've put together – start at the top and work your way through. Most people will just need a refresher until there's the "Ah ha!" moment.

You can click each link for worksheets to help you practice.

If you need more help with a particular type of problem you can click the "View More" on the videos.
Whole Numbers

Multiplying Decimals

Dividing Decimals

Adding and Subtracting Fractions

Rational and Irrational Numbers

Exponents

Basic Algebra

Distributive Property

Linear Equations

Factoring

Multiplying Factors

Factoring Quadratics

Proportions

Equivalent Ratios

Missing Numbers

Fractions - Common Denominator

Multiplying Fractions and Whole Numbers

Rational and Irrational Numbers

Positive and Negative Numbers (Integers)

Other websites

Basic Algebra

Algebra: Part 1

Algebra: Part 2

Solving Algebraic Equations

F.O.I.L. Method

Algebra: Linear Equations

Factoring Polynomials

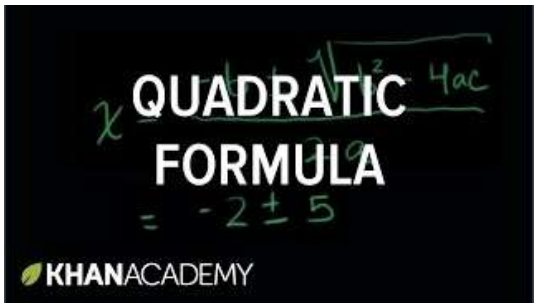
Plotting X & Y

Proportions

Linear Equations Substitution Method

Function Notation

Quadratic Formula



Quadratic Formula

Often, the simplest way to solve "ax2 + bx + c = 0" for the value of x is to factor the quadratic, set each factor equal to zero, and then solve each factor. But sometimes the quadratic is too messy, or it doesn't factor at all, or you just don't feel like factoring. While factoring may not always be successful, the Quadratic Formula can always find the solution.

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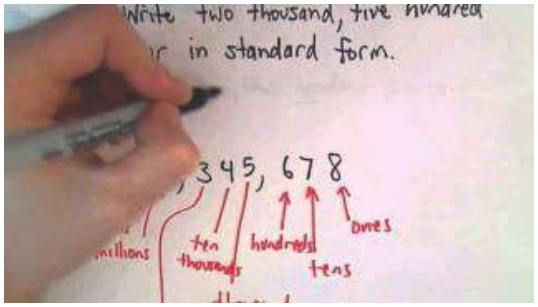
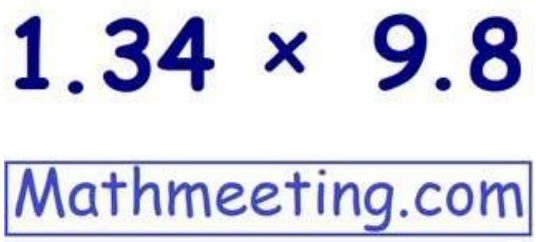


Whole Numbers

Writing Whole Numbers in Standard Form (English to Number!). Here we have a number written out in English and we write it in standard form. Two examples are shown.

View More



Multiplying Decimals

Multiplying decimals, step by step, example.

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Dividing Decimals

Dividing decimals, step by step, examples.

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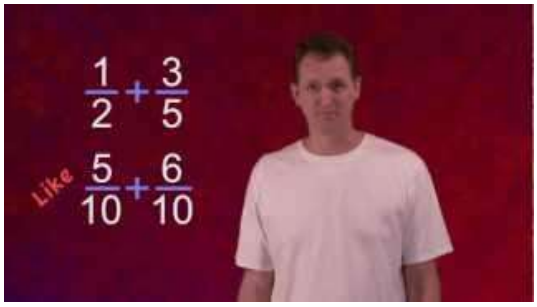

Fractions - Common Denominator

Learn how to add and subtract unlike fractions

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Adding and Subtracting Fractions
Adding and subtracting fractions with the same denominator

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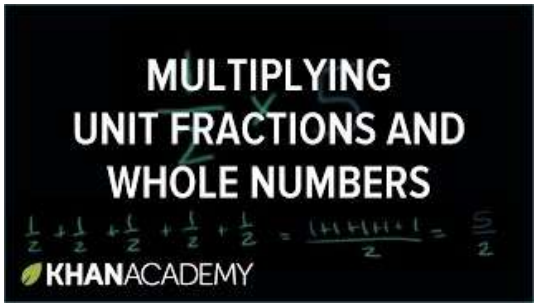

Multiplying Fractions and Whole Numbers
Don't let multiplying whole numbers and fractions get you down. We got this. This explanation will help you become a pro.

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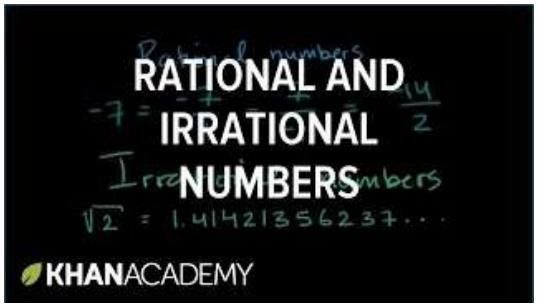

Rational and Irrational Numbers
Learn what rational and irrational numbers are and how to tell them apart.

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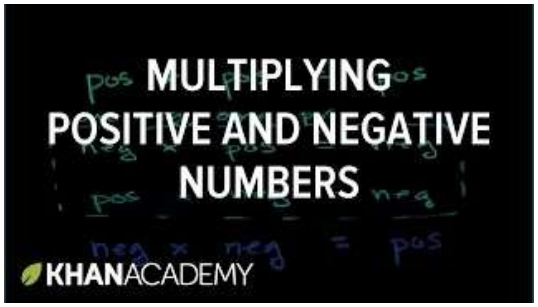

Positive and Negative Numbers (Integers)

Learn some rules of thumb for multiplying positive and negative numbers.

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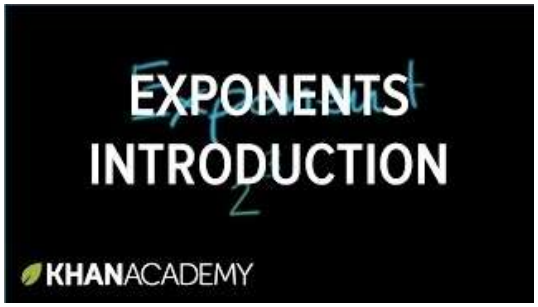

Intro to Exponents
Taking an exponent is basically the act of repeated multiplication. You know how to multiply, right? If so, understanding exponents is completely within your grasp!

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Basic Algebra
Easiest way to master algebra without even learning anything math.

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Algebra: Part 1
In this video you'll learn about balancing equations.

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Algebra: Part 2
In this video you'll learn how to apply inverse operations on both sides of an equation.

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Solving Algebraic Equations
Learn about the order of operations and how to apply them when solving problems.

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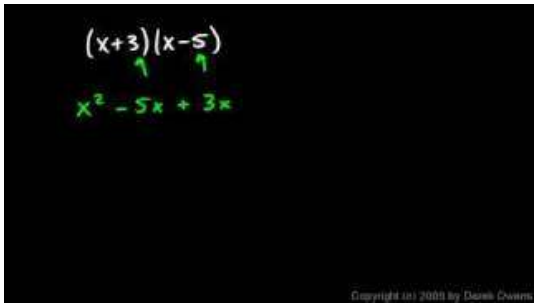

F.O.I.L. Method
Learn how to multiply binomials using the FOIL method.

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Algebra: Linear Equations
This example demonstrates how we solve an equation expressed like: ax + b = c.

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Factoring Polynomials

Factoring polynomial expressions is not quite the same as factoring numbers, but the concept is very similar. When factoring numbers or factoring polynomials, you are finding numbers or polynomials that divide out evenly from the original numbers or polynomials. But in the case of polynomials, you are dividing numbers and variables out of expressions, not just dividing numbers out of numbers.

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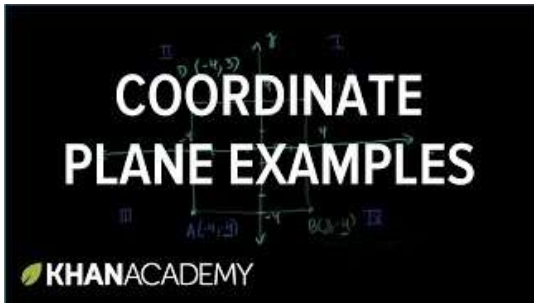

Plotting X & Y
Let's get familiar with the x/y coordinate plane, both from the perspective of plotting points and interpreting the placement of points on a plane.

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Proportions
A ratio is one thing compared to or related to another thing; it is just a statement or an expression. A proportion is two ratios that have been set equal to each other; a proportion is an equation that can be solved. Solving a proportion means that you are missing one part of one of the fractions, and you need to solve for that missing value.

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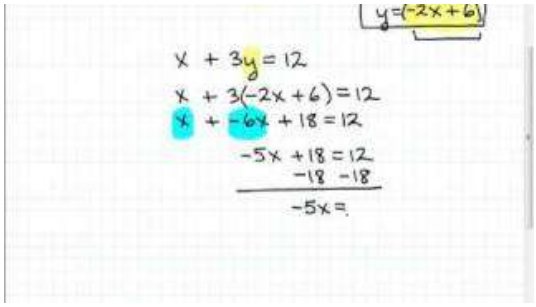

Linear Equations Substitution Method

The method of solving "by substitution" works by solving one of the equations (you choose which one) for one of the variables (you choose which one), and then plugging this back into the other equation, "substituting" for the chosen variable and solving for the other. Then you back-solve for the first variable.

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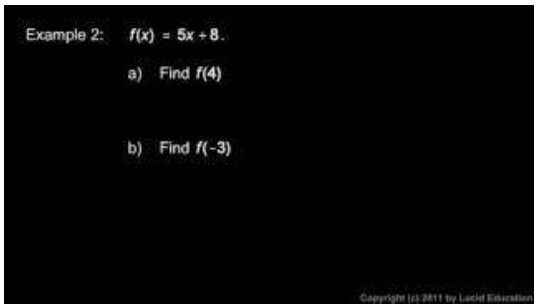

Function Notation

You've been playing with "y =" sorts of equations for some time now. And you've seen that the "nice" equations (straight lines, say, rather than ellipses) are the ones that you can solve for "y =" and then plug into your graphing calculator. These "y =" equations are functions. But the question you are facing at the moment is "Why do I need this function notation, and how does it work?"

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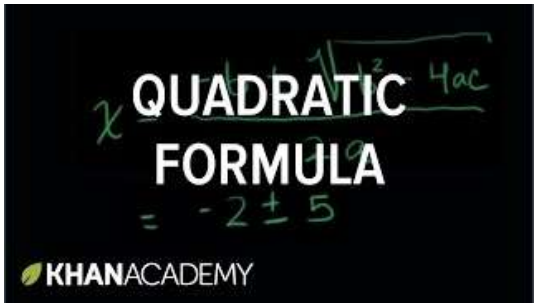

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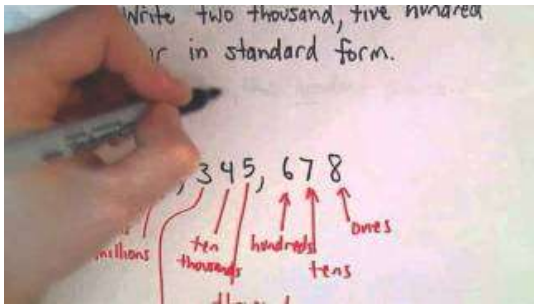

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