

Before you launch into the statistics and economics classes, we strongly recommend that you spend some time practicing the algebra that you learned in high school (or undergrad). The instructors of the statistics and economics courses will assume that you know how to

- Solve linear equations in one or two variables
- Find intercepts
- Find points of intersection between two lines
- Graph lines
- Interpret slope

We have set up an online review program for you through Khan Academy. The program will walk you through a series of learning objectives. For each learning objective you start with a diagnostic. If you ace it, you get to move on to the next one. If not, work through the instructional videos and hints.

The learning objectives are a subset of the “Algebra Basics” curriculum. A list of the learning objectives that you should master starts on the next page.

This is not a class, and you will not be graded. I am giving you the framework, but you have to decide how much practice and instruction you need.

How to access the algebra basics online tutorial

1. Sign up at khanacademy.org, or login if you already have an account.
2. Go to khanacademy.org/coaches; this is the "coaches" tab in your profile.
3. In the "Add a Coach" field, enter the class code PUATWH.
4. After you sign up, I have to manually add your recommendations, which I will plan to do several times a day. To see your recommendations,
 - a. Click on your name in the upper right, and select “Profile.”
 - b. On the next screen, select “Progress.”
 - c. On the next screen, select the "Coach Recommendations" tab. Here, you will see the list of learning objectives to study.
5. You can bypass the coach recommendations (and the class code) by using the search bar at the top of your home page (and your profile page, and many other pages). Use the list of skills that I prepared for you. *This is also a good option if you want to get started before I add the specific learning objectives to your profile.*
6. Needless to say, you can and should go to any other skill areas where you need to brush up.

Khan Academy has apps available for the iPhone and iPad, if you want an alternative to your web browser.

Algebra Basics

Foundations

Interpreting absolute values

- *In statistics, interpret the distance to the left and right of zero as equivalent portions of a distribution.*

Algebraic Expressions

Evaluating expressions with two variables

- *Good starting point for working with equations with two variables, needed in the economics sequence.*

Evaluating expressions with variables word problems

- *Very easy word problems to get you thinking about two variables.*

Linear Equations and Inequalities – mostly for economics classes

One-step equations with multiplication and division

- *Confidence-building warm-up for more advanced skills*

One-step equations with addition and subtraction

- *More confidence-building warm-ups. Congratulate yourself if you think this is ridiculously easy.*

Two-step equations

- *Now we're getting to the less obvious skills. "Solving for" means that you are doing the mathematical operations needed to isolate the variable on the left-hand side of the equation.*

Linear equation word problems

- *These examples are simple are fairly intuitive. When you get to economics, remember that it really is just this simple.*

Understanding the process for solving linear equations

- *So important! This is exactly the process you will need to find X and Y intercepts.*

Graphing Lines and Slope

Graphing points and naming quadrants

- *I hope this one is ridiculously easy for you. If not, not worries – here is your opportunity to practice. Good to refresh your muscle memory.*

Graphing solutions to two-variable linear equations

- *More bread and butter graphing, to make sure you remember how to do it.*

Intercepts from a linear equation

- *This one might be more on the statistics side. When $y=0$, then $x=?$ When $x=0$, then $y=?$*

Graph from slope-intercept equation

- *More graphing*

Systems of equations

Solving systems of equations graphically

- *Here is how you find the point of intersection between two lines. This skill involves using graphics...*

Solving systems of two linear equations

- *And this one walks you through the math without the graphics.*