SMARTHINKING Online tutoring: Mathematics tutoring

Smarthinking delivers online tutoring up to 24 hours a day, 7 days a week -- offering one-on-one help when students need it -- as they complete homework or study for tests. By providing drop-in live sessions, or allowing students to ask written questions or submit writing assignments for feedback, **Smarthinking** helps students at their point of need.

Using their proprietary virtual whiteboard for live, real-time collaboration, tutors guide students through solving math problems. **Smarthinking**'s tutors do not solve the problem for students. Instead, tutors use a problem-solving based teaching style to help students learn underlying math concepts. In this way, students learn to handle future assignments on their own.

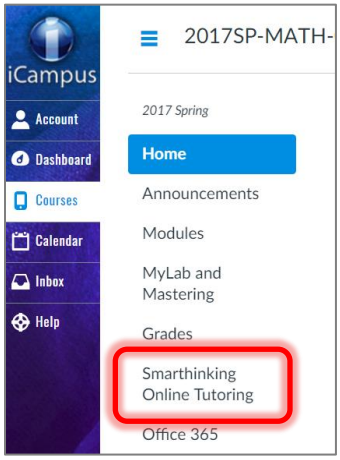
>How do I enroll in Smarthinking tutoring?

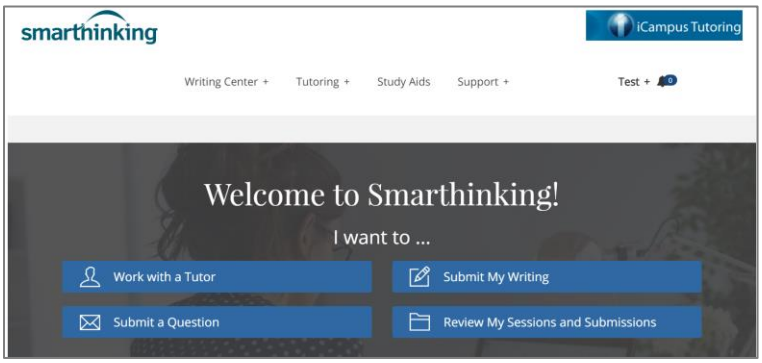
It is already available in your mathematics course located in Canvas! However, if your math instructor has not enabled the Canvas course for your math class, you can contact the Tutoring and Learning Center at (815) 280-2823 to schedule an appointment to set up a **Smarthinking** account. Also, if your course uses MyMathLab and your instructor chooses to make it available, you can access **Smarthinking** tutoring using the Question Help option **Connect to a Tutor**.

>How do I access my Smarthinking tutoring account?

Visit https://icampus.instructure.com. After accessing your math class, click on the link for **Smarthinking** in the left-hand navigation in Canvas.

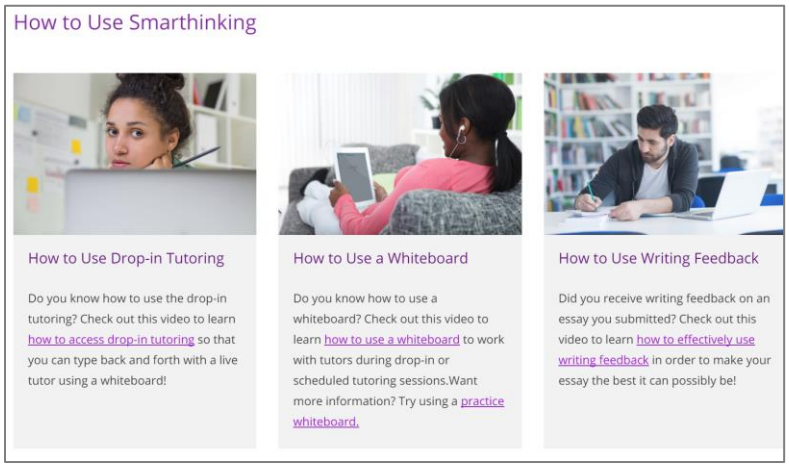
Note: You may need to enable the popup in your browser for Smarthinking tutoring to load.





>How do I use Smarthinking Tutoring?

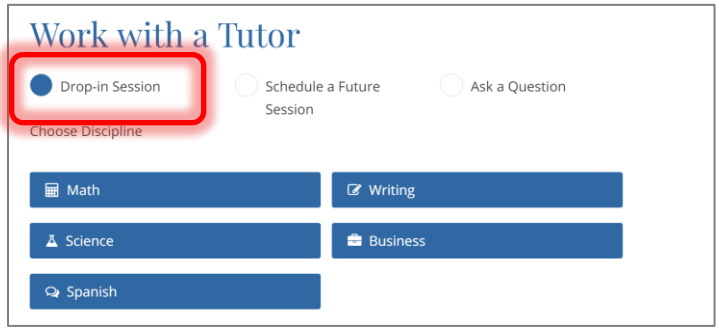
Once you see the **Smarthinking** homepage, scroll down for details how to use the various features.



Visit https://youtu.be/ATQve_N99iE to see a sample math interactive math tutoring session using the **Smarthinking** virtual whiteboard.

>What options do I have for tutoring?

You can choose **"drop-in" tutoring**. This feature allows a student to connect immediately with a tutor and conduct a live tutorial session via an interactive whiteboard. **Drop-in tutoring is available 24/7 for most courses!**



You can also choose **"Scheduled" tutoring**. This feature allows a student to reserve 48 hours in advance an interactive, live session with a tutor (in some cases with audio) for a particular time and subject. This feature is mandatory for tutoring for more advanced subjects (such as differential equations).

>What math classes can I get tutoring for?

Smarthinking separates their math topics by overarching content areas. You may need to read the below descriptions in order to determine what math category your question falls.

Bilingual Math tutoring is available in all of the content areas described below.

Algebra: MATH 094, 098, 119, 131, 138, 139, 142, 153; TMAT 107, 108
Algebraic expressions – binomial theorem – complex numbers – conic sections – elementary sequences and series – exponentials and logarithms – functions – graphs/coordinate systems – inequalities – linear programming – lines – matrices – polynomials – quadratics – rational expressions – solving equations – systems of equations – systems of inequalities

Basic Math: MATH 090, 123, and 124; BMAT101
Arithmetic with decimals, fractions, or mixed numbers – arithmetic with whole or signed numbers – bases other than base 10 – problem solving – dimensional analysis – exponents and radicals – logic – order of operations – percentages and percent change – ratio and proportion – graphs and charts – rounding and estimating – scientific notation – sets – real number system

Calculus (Single Variable): MATH 150, 170, 171
Applications of Derivatives (mean value theorem, max/min, related rates, etc.) – Applications of Integrals (length of curves, work, volume, surface area, etc.) – Derivatives –Integrals – Integration techniques – Limits – Parametric equations – Polar coordinates – Sequences and Series (convergence test, power series, Taylor series, etc.)

Geometry: MATH 095, 108, 119, 124
Basic Definitions (points, lines, rays, angles) – Congruent Triangles – Circles, Polygons, Quadrilaterals – Coordinate Geometry – Perimeters, Areas, Volumes – Planes and Parallel Lines – Similar figures – Theorems, Postulates, and Proof – Triangles

Liberal Arts Math: MATH 127
Apportionment (quota rule, Hamilton's method, Jefferson's method, Adam's method, Huntington-Hill method) – averages (mean; median; mode; frequency distributions; percentile rank) –Consumer Math (interest, ordinary annuities, fixed installment loans, amortization, average daily balance) – Counting (fundamental counting principal, permutations, combinations) – Fair Division (divider-chooser, lone-divider, lone-chooser, last-diminisher, sealed bids, markers) – Graph Theory (Euler and Hamilton circuits and paths, Fleury's algorithm, nearest-neighbor and repetitive nearest neighbor algorithms, cheapest link algorithm, minimal spanning trees, Kruskal's algorithm) – Probability – Scheduling (digraphs, priority lists) – Voting (voting methods, fairness criteria, weighted voting)

Statistics: MATH 124, 128, 153
Descriptive Statistics (Graphic Representations, Measures of Central Tendency, Dispersion, Position) – Inferential statistics (confidence intervals, hypothesis testing) – Process and Quality Control – Probability – Relationships Between Variables (correlation and regression) – Understanding Data

Trigonometry: MATH 119, 139, 142; TMAT 108
Angles and their Measure – Area of a Triangle – Complex Numbers – Conic Sections – Formulas (double angle, half angle, etc.) – Graphs of Trig Functions – Inverse Trig Functions – Law of Sines, Law of Cosines – Polar Coordinates – Trig Equations – Trig Functions – Trig Identities – Vectors

- **Also Available Upon Request via Prescheduled Sessions:**

Multivariable Calculus: MATH 172
Vectors: dot product, cross product, lines, planes; Vector-Valued Functions: limits, derivatives, curves, tangents, curvature; Partial Derivatives: chain rule, directional derivatives, gradient, Lagrange multipliers; Multiple Integrals: surface area, polar & cylindrical coordinates, moments and center of gravity; Vector Calculus: vector fields, line integrals, Green's theorem, surface integrals, Stokes Theorem, Divergence Theorem.

Differential Equations: MATH 220
Higher-Order Differential Equations, Laplace Transform, Numerical Solutions of ODE, Series Solutions of Linear Equations, Solutions of First-Order Differential Equations, Systems of Linear First-Order Differential Equations

Linear Algebra: MATH 210
Determinants, Eigenvalues and Eigenvectors, Linear Transformation, Matrices, Optimization (simplex method), Orthogonality, Vectors and Vector Spaces

Discrete Mathematics: MATH 137
Boolean Algebra, Counting, Discrete Probability, Functions, Graphs, Integers and Numbers, Logic, Order Relations, Proofs, Relations, Sets, Sequences and Series

>I'm having difficulty with Smarthinking. Who do I contact?

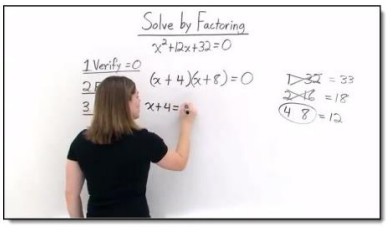
Please visit http://smarthinking.echelp.org to perform a browser check, start live chat, contact phone support, or access the knowledge base.

>What other support can I get through Smarthinking?

Math students can view over 1,500 video tutorials on topics in Prealgebra, Algebra 1 (Elementary Algebra), Algebra 2 (Intermediate Algebra) and Geometry.

These three- to six- minute- long videos provide a mini-lecture style tutorial giving students the ability to review a topic before or after meeting with a tutor.

Screen shot of a Virtual Nerd tutorial video:



To access the Virtual Nerd Videos, click on **Study Aids**.