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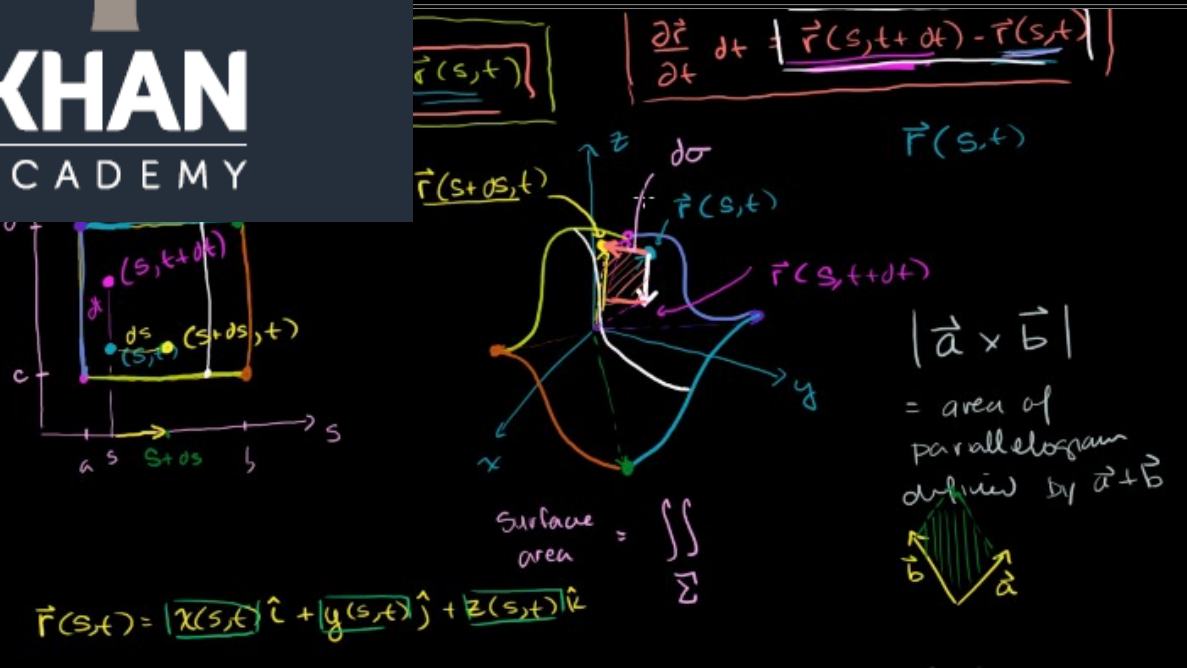


- ### Algebra
- Topics covered from very basic algebra all the way through algebra II. This is the best algebra playlist to start if you've never seen all your favorites, you may want to try some of the videos in the "Algebra I Worked Examples" playlist.
- Simple Equations
 - Equations 2
 - Equations 3
 - Algebra: Linear Equations 4
 - Algebra: Solving Inequalities
 - Algebra: graphing lines 1
 - Algebra: Slope and Y-intercept intro
 - Algebra: Slope
 - Algebra: Slope 2
 - Algebra: Slope 3
 - Algebra: Equation of a line
 - Slope and Y-intercept intro
 - Averages
 - Integer sums
 - Taking percentages
 - Growing by a percentage
 - Another Percent Word Problem
 - More percent problems
 - Systems of Equations
 - Introduction to Ratios (new HD version)
 - Ratio problem with basic algebra (new HD)
 - More advanced ratio problem—with algebra (HD v)
 - Ultimate Solution to Ratio Problem (HD Version)
 - Introduction to Ratios
 - Advanced ratio problems
 - Algebra word problems 1
 - Algebra word problems 2
 - Algebra word problems 3
 - Level 1 multiplying expressions
 - Solving a quadratic by factoring
 - and Imaginary numbers
 - Complex Numbers (part 1)
 - Complex Numbers (part 2)
 - Introduction to the quadratic equation
 - Quadratic Equation part 2
 - Completing the square
 - Quadratic Formula (proof)
 - Quadratic Inequalities
 - Quadratic Inequalities (Visual Explanation)
 - Introduction to functions
 - Functions Part 2
 - Functions (Part III)
 - Functions (part 4)
 - Domain of a function
 - Proof: $\log_a a = \log a b = \log ab$
 - Proof: $\log_a (a^x) = \log (a^x) / \log_a (a)$
 - Algebraic Long Division
 - Introduction to Conic Sections
 - Conic Sections: Intro to Circles
 - Conic Sections: Intro to Ellipses
 - Conic Sections: Intro to Hyperbolas
 - Conic Sections: Hyperbolas 2
 - Conic Sections: Hyperbolas 1
 - Identifying Conics 1
 - Identifying Conics 2
 - Conic Identification 3
 - Foci of an Ellipse
 - Foci of a Hyperbola
 - Proof: Hyperbola Foci
 - Partial Fraction Decomposition
 - Partial Fraction Decomposition
 - Parabola Focus and Directrix
 - Two Racing Bicycles
 - Raised Bike World 2
 - Raising Trails
 - Overtaking Word Problem
 - Early Train Word Problem
 - Officer on Horseback
 - Rational Inequalities
 - Rational Inequalities
 - Increasing Polynomials
 - Geometric series 1
 - Introduction to Functions
 - Function Inverse 1
 - Function Inverse 2
 - Function Inverse 3

Algebra I Worked Examples

100 Worked Algebra Examples (problems written by the Monterey Institute of Technology and Education). You should look at the "Algebra I" playlist if you've never seen algebra before or if you want instruction on topics in Algebra I. Use this playlist to see a set of example problems in every topic in the California Algebra I Standards. If you can do all of these problems on your own, you should probably be ready for Algebra II (seriously).

- Solving Equations 1
- Solving Equations 2
- Solving Equations with the Distributive Property
- Solving equations with the distributive property 2
- Algebraic Word Problem
- Sum of Consecutive Odd Integers
- Example of Solving for a Variable
- Solving for a variable 2
- Absolute Value 1
- Absolute Value and Number Lines
- Absolute Value Equations 1
- Absolute Value Equation Example 2
- Patterns in Sequences 1
- Patterns in Sequences 2
- Equations of Sequence Patterns
- Finding the 100th Term in a Sequence
- Functional Relationship 1
- Testing if a relationship is a function
- Domain and Range 1
- Domain and Range 2
- Direct Variation 1
- Basic Rate Problem
- Basic Linear Function
- Exploring linear relationships
- Recognizing Linear Functions
- Exploring nonlinear relationships
- Slope of a line
- Slope Example
- X and Y Intercepts
- X and Y Intercepts 2
- Graphing a line in slope-intercept form
- Equation of a line
- Converting to slope-intercept form
- Point-slope and standard form
- Parallel Lines
- Systems and rate problems 2
- Mixture problems 1
- Mixture problems 2
- Mixture problems 3
- Graphing systems of inequalities
- Graphing systems of inequalities 2
- Exponent Rules 1
- Exponent Rules 2
- Exponent Rules 3
- Scientific notation 1
- Scientific notation 2
- Scientific notation 3
- Simplifying Expressions with Exponents
- Simplifying Expressions with Exponents 2
- Simplifying Expressions with Exponents 3
- Pythagorean Theorem 1
- Pythagorean Theorem 2
- Pythagorean Theorem 3
- Simplifying Radical Expressions 1
- Simplifying Radical Expressions 2
- Simplifying Radical Expressions 3
- Solving Radical Equations 1
- Solving Radical Equations 2
- Solving Radical Equations 3
- Applying Radical Equations 1
- Applying Radical Equations 2
- Applying Radical Equations 3
- Fractional Exponent Expressions 1
- Fractional Exponent Expressions 2
- Fractional Exponent Expressions 3
- Multiplying and Dividing Monomials 1
- Multiplying and Dividing Monomials 2
- Multiplying and Dividing Monomials 3
- Polynomials 1
- Quadratic Functions 2
- Quadratic Functions 3
- Completing the Square 1
- Completing the Square 2
- Completing the Square 3
- Quadratic Formula 1
- Quadratic Formula 2
- Quadratic Formula 3
- Applying Quadratic Functions 1
- Applying Quadratic Functions 2
- Applying Quadratic Functions 3
- Non-Linear Systems of Equations 1
- Non-Linear Systems of Equations 2
- Non-Linear Systems of Equations 3
- Simplifying Rational Expressions 1
- Simplifying Rational Expressions 2
- Simplifying Rational Expressions 3
- Multiplying and Dividing Rational Expressions 1
- Multiplying and Dividing Rational Expressions 2
- Multiplying and Dividing Rational Expressions 3
- Adding and Subtracting Rational Expressions 1
- Adding and Subtracting Rational Expressions 2
- Adding and Subtracting Rational Expressions 3
- Solving Rational Equations 1
- Solving Rational Equations 2
- Solving Rational Equations 3
- Applying Rational Equations 1
- Applying Rational Equations 2
- Applying Rational Equations 3
- Number Sense 1
- Number Sense 2
- Number Sense 3
- Understanding Logical Statements 1
- Understanding Logical Statements 2





Pythagorean theorem 1

Related videos: [Pythagorean Theorem II](#), [Pythagorean Theorem](#), [The Pythagorean Theorem](#)

STREAK 75 ENERGY POINTS

Show scratch pad | Print next 10 problems

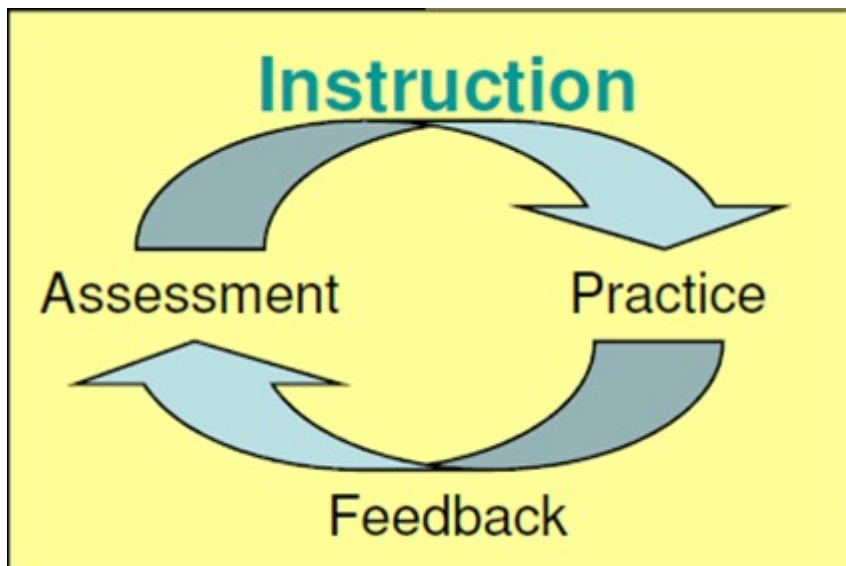
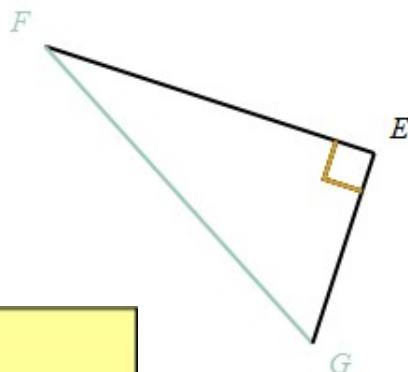
\overline{EF} is 3 units long.

\overline{GE} is 7 units long.

What is the length of \overline{FG} ?

$\angle FEG$ is 90 degrees so **triangle EFG** is a right triangle.

\overline{FG} is the side opposite the right angle so it is the hypotenuse (and longest side) of **triangle EFG**.



Answer

- 12
- $\sqrt{10}$
- 58
- $\sqrt{58}$
- 10

Check Answer

Need Help?

Watch a video

Watching videos *does not* reset your streak.

Pythagorean Theorem II	123 of 750
Pythagorean Theorem	0 of 750
The Pythagorean Theorem	0 of 750

Get a hint

Getting a hint *will* reset your streak!

Next Hint



PROFICIENT?

Inverses of functions

Related videos: [Introduction to Function Inverses](#) , [Function Inverse Example 1](#) , [Function Inverses Example 2](#) , [more...](#)

Dashboard

STREAK

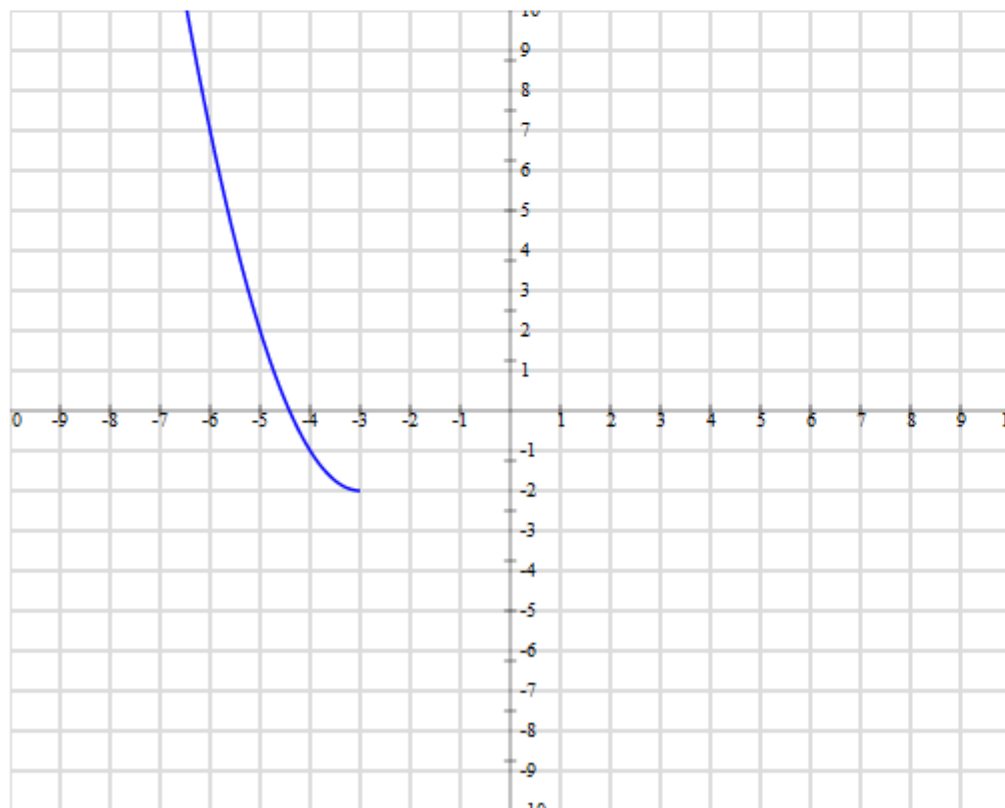
75

ENERGY POINTS

[Show scratch pad](#) | [Print next 10 problems](#)

$$f(x) = (x+3)^2 - 2, \text{ for } x \leq -3$$

$$f^{-1}(x) = ?$$



Answer

- $(x-3)^2 + 2$ for $x \geq -2$
 $(x+3)^2 + 2$ for $x \geq -2$
 $-\sqrt{x-2} + 3$ for $x \geq -2$
 $-\sqrt{x+2} - 3$ for $x \geq -2$
 $-\sqrt{x+3} - 2$ for $x \geq -2$

Need Help?

Watch a video

Watching videos **does not** reset your streak.

[Introduction to Function Inverses](#)

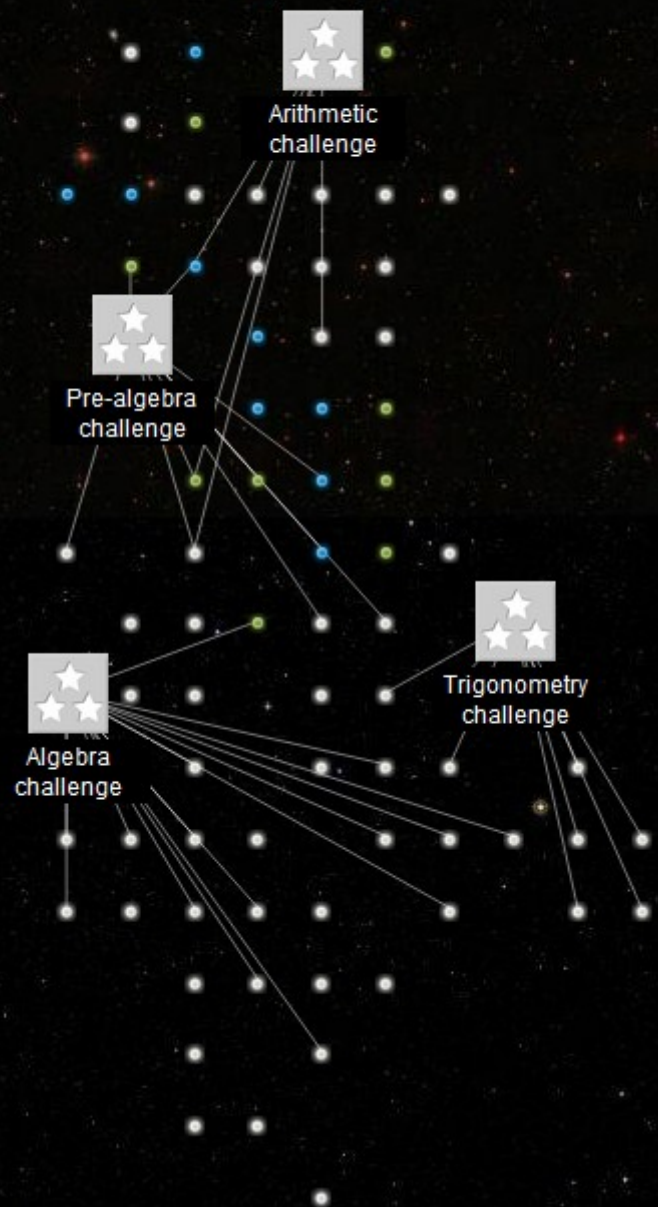
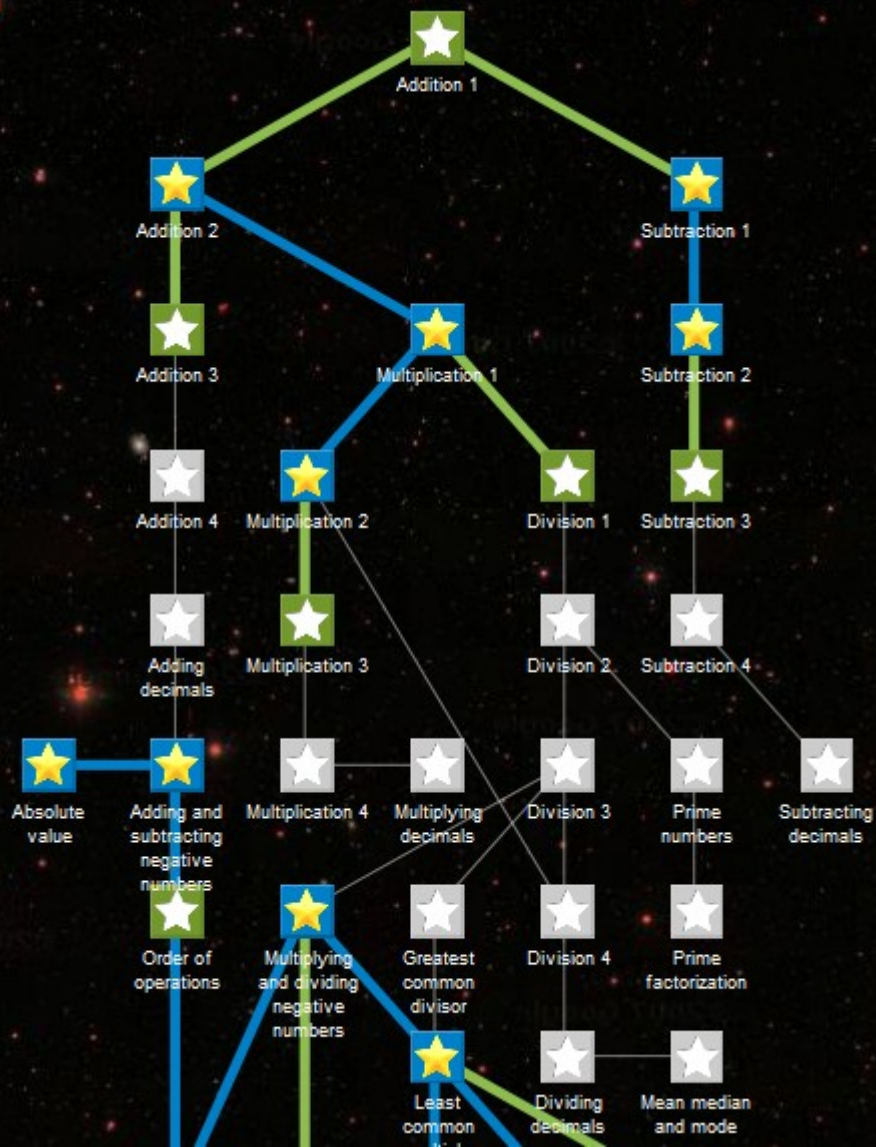
[Function Inverse Example 1](#)

[Function Inverses Example 2](#)

[more...](#)

Get a hint

Getting a hint **will** reset your streak!



Your Achievements

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
Problem #



Challenge Patches



Black Hole Badges



Sun Badges



Earth Badges



Moon Badges x 2



Meteorite Badges x 6

Your Badges



**Journeyman
Arithmetician**

500

Last achieved 12 days and 1 hour ago



**Apprentice
Arithmetician**

100

Last achieved 34 days and 21 hours ago

All Badges



**Apprentice
Arithmetician**

100

*Achieve proficiency in Addition 1, Subtraction 1,
Multiplication 1, Division 1*



**Apprentice
Trigonometrician**

100

*Achieve proficiency in Angles 2, Distance formula,
Pythagorean theorem 1*



**Apprentice Pre-
algebraist**

100

*Achieve proficiency in Exponents 1, Adding and subtracting
negative numbers, Adding and subtracting fractions*

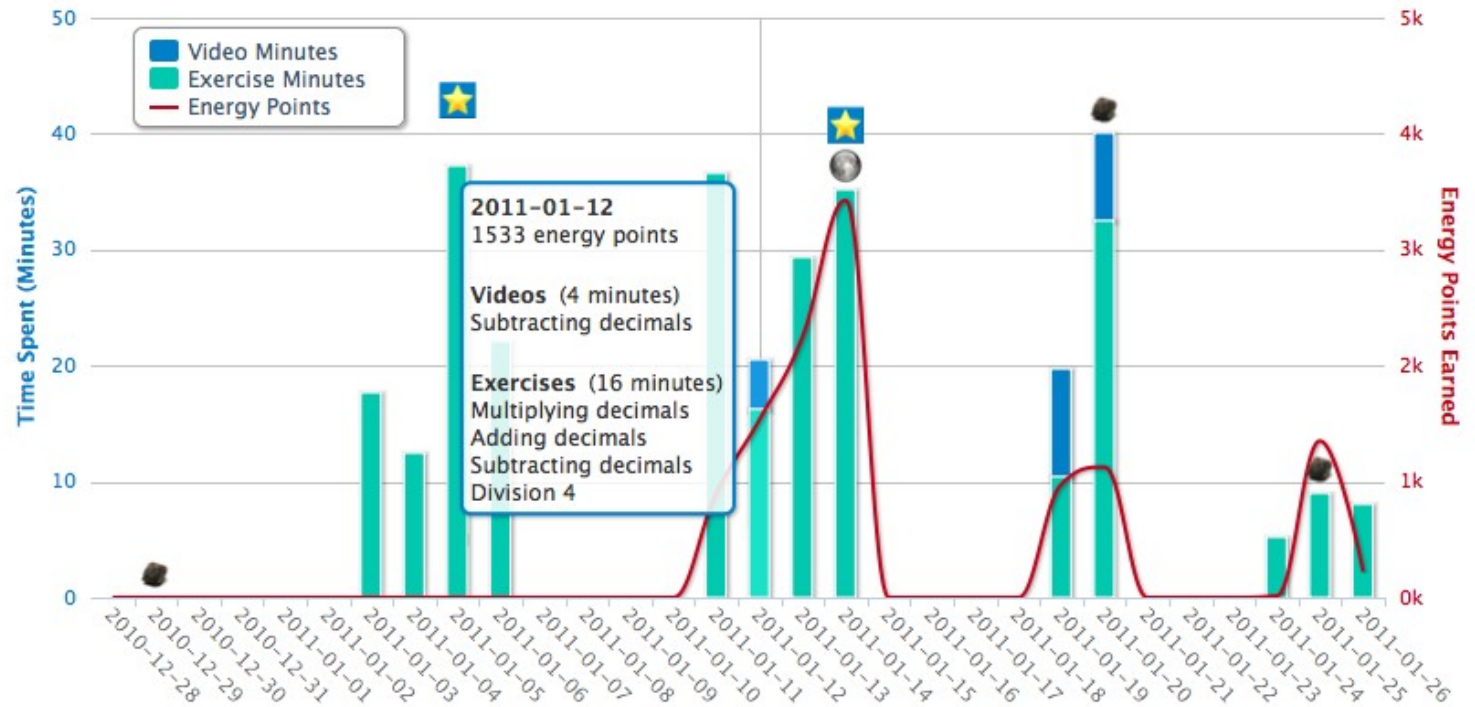
Vital statistics

Activity

Shows how much work you're doing each day.

[Today](#) | [Yesterday](#) | [Last 7 Days](#) | [Last 30 Days](#)

- ▶ Focus
- ▶ Exercise Progress
- ▶ Exercise Progress Over Time



Your Achievements

Vital statistics

Activity

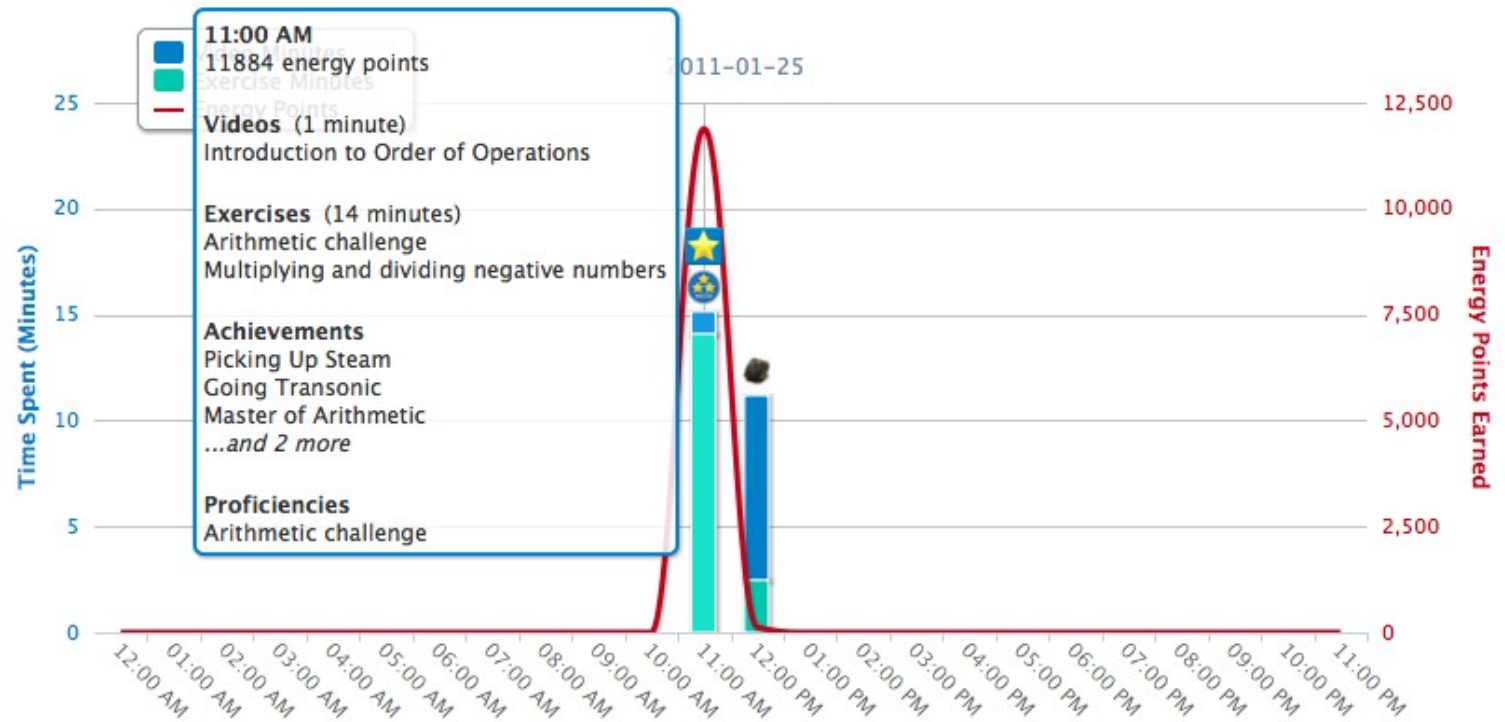
Shows how much work you're doing each day.

[Today](#) | [Yesterday](#) | [Last 7 Days](#) | [Last 30 Days](#)

Focus

Exercise Progress

Exercise Progress Over Time



Your Achievements

Vital statistics

▶ Activity

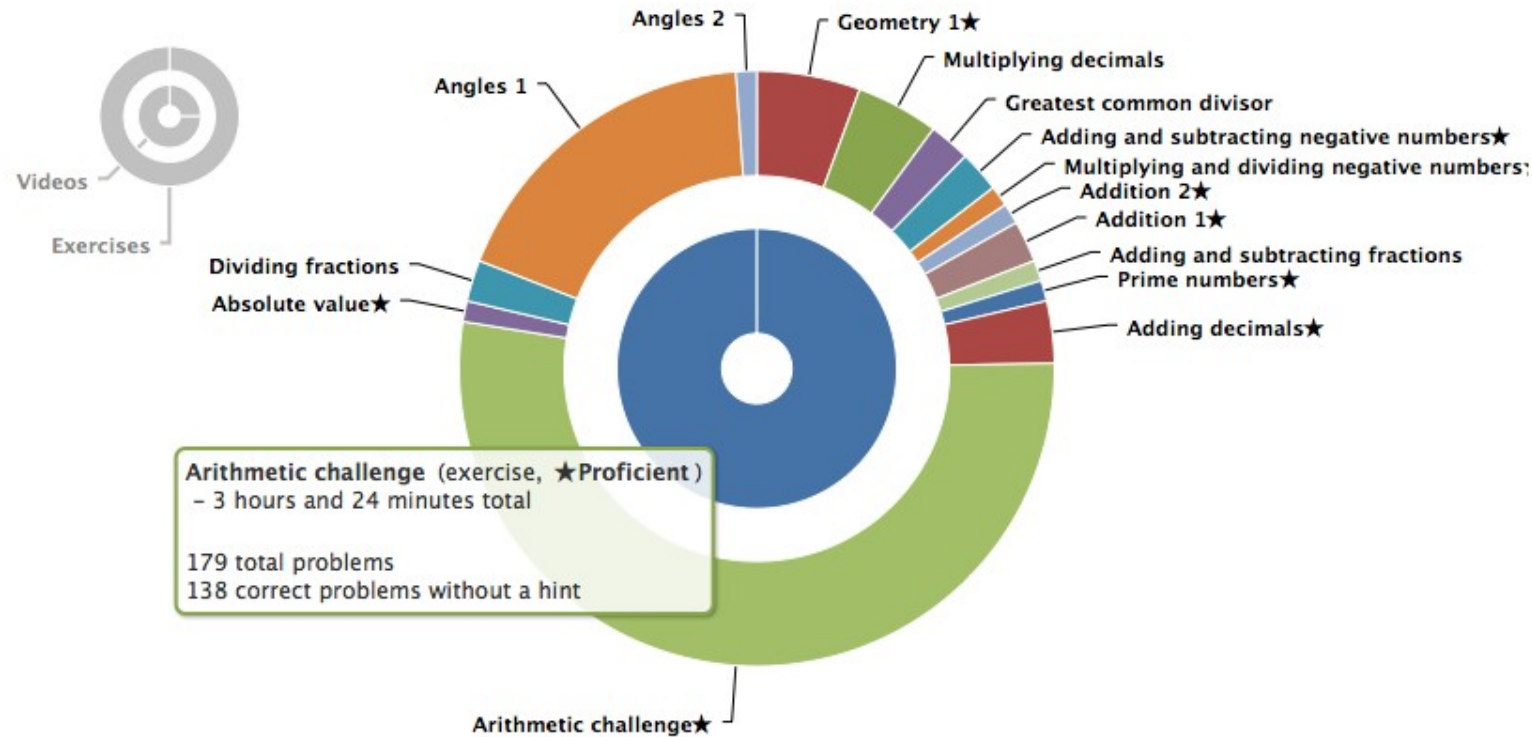
▼ Focus

Shows how well you've focused on exercises and video playlists.

[Today](#) | [Yesterday](#) | [Last 7 Days](#) | [Last 30 Days](#)

▶ Exercise Progress

▶ Exercise Progress Over Time



Your Achievements



Vital statistics

▶ Activity

▶ Focus

▼ Exercise Progress

Shows you which exercises you've worked on and completed.

▶ Exercise Progress Over Time

Add. 1	Sub. 1	Add. 2	Add. 3	Sub. 2	Mult. 1	Add. 4	Sub. 3	Mult. 2	Div. 1	Arith. Ch.
Add. Dec.	Sub. 4	Mult. 3	Div. 2	Mult. 4	Mult. Dec.	Sub. Dec.	Div. 3	+/- Neg. #s	Prime #s	Abs. Value
Div. 4	Order Ops.	x± Neg. #s	GCD	Prime Fac.	LCM	Div. Dec.	M/M/M	Pre-alg Ch.	+/- Fract.	Equiv Frac.
Exponents 1	Divisibil.	Mult. Frac.	Ordering #s	Exponents 2	Geometry 1					
Lin. Eq. 1	Graph Pts.	Angles 2	Log. 1	Simp. Rad.	Sci. Notat.					
Dist. Form.	Alg. Chal.	% Word 2	Lin. Eq. 3	Pythag. 2	Functions 2					
Sys. of Eq.	Mult. Ex. 1	Lin. Ineq.	Even/Odd fx	Shif/Ref fx	Inv Trig fx	Age Word	Avg. Word	Gr. sin/cos	Quadr. Fac.	Line Graph
Trig. Id. 1	Inverse fx	Kinem. Eq.	Quad. Eq.	y-intercept	Line slope	Limits 1	Equat. Line	Limits 2	Deriv. 1	Power Rule
Spec. Deriv	Chain Ru. 1	Product Ru.								

Geometry 1

Status: Proficient

Streak: 31

Problems attempted: 154

Vital statistics

Activity

Focus

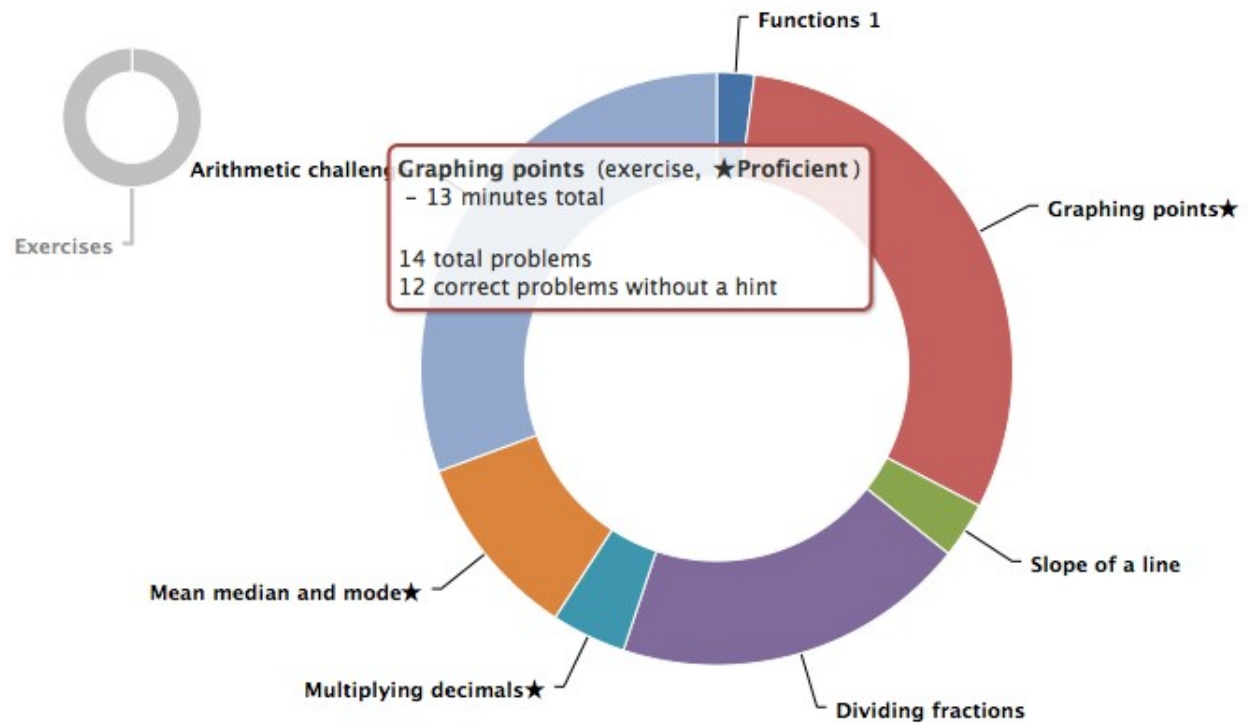
Shows how well you've focused on exercises and video playlists.

[Today](#) | [Yesterday](#) | [Last 7 Days](#) | [Last 30 Days](#)

Exercise Progress

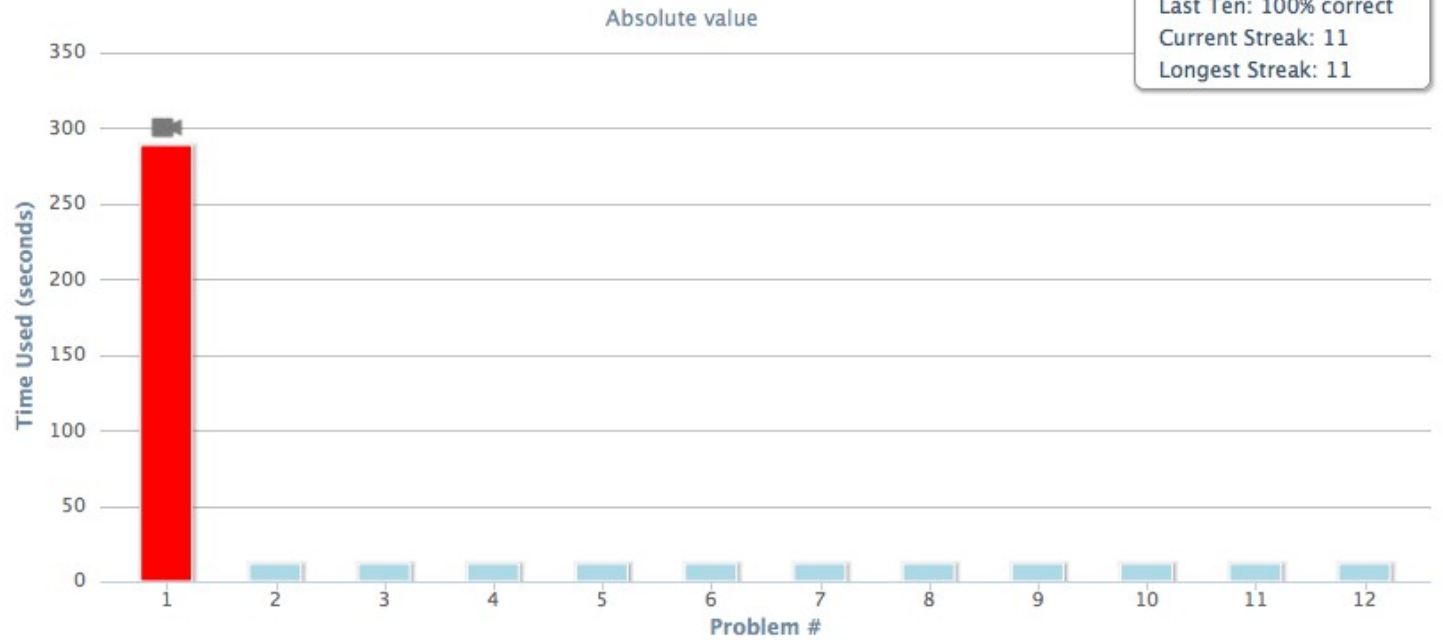
Exercise Progress Over Time

Your Achievements













Vital statistics

- ▶ Activity
- ▶ Focus
- ▶ Exercise Progress
- ▶ Exercise Progress Over Time



Your Achievements

Recent Activity

-  Answered [8 problems](#) in Line graph intuition 2 hours, 30 minutes ago
-  Answered [2 problems](#) in Linear equations 3 2 hours, 36 minutes ago
-  Answered [1 problem](#) in Limits 1 2 hours, 39 minutes ago
-  Answered [1 problem](#) in Greatest common divisor 2 hours, 40 minutes ago
-  Answered [1 problem](#) in Linear equations 3 2 days, 1 hour ago
-  Watched 3 minutes of [Subtraction 2](#) 2 days, 1 hour ago
-  Answered [10 problems](#) in Line graph intuition 2 days, 1 hour ago
-  Watched 8 minutes of [Addition 3](#) 2 days, 1 hour ago
-  Answered [1 problem](#) in Linear equations 3 2 days, 2 hours ago
-  Earned [Nice Listener](#) for Arithmetic 2 days, 2 hours ago

Vital statistics

- ▶ Activity
- ▶ Focus
- ▶ Exercise Progress

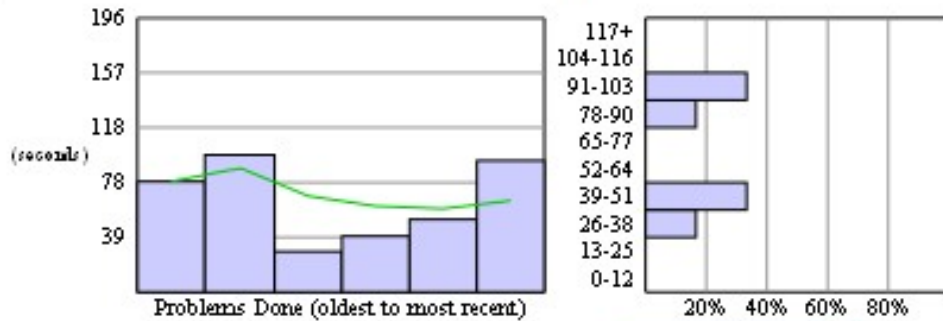
▼ Exercise Progress Over Time

Shows how many exercises you've completed over time.

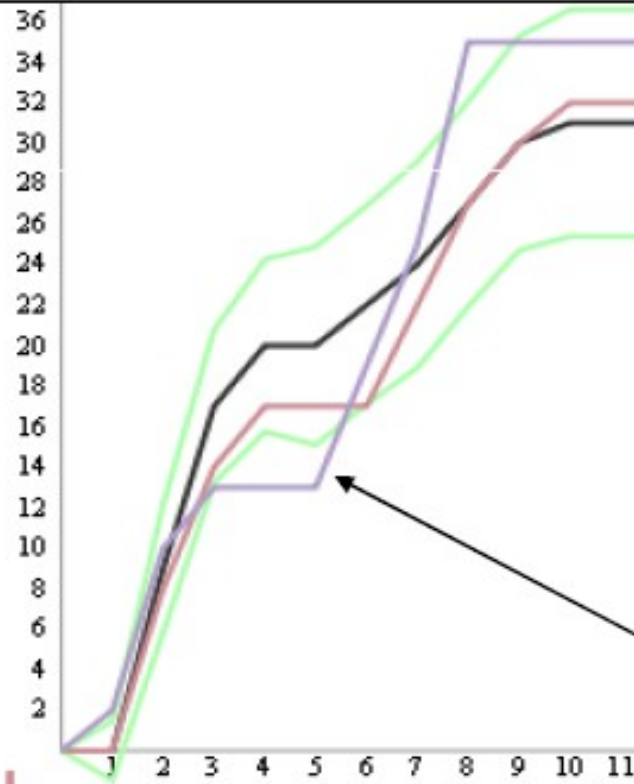


Your Achievements

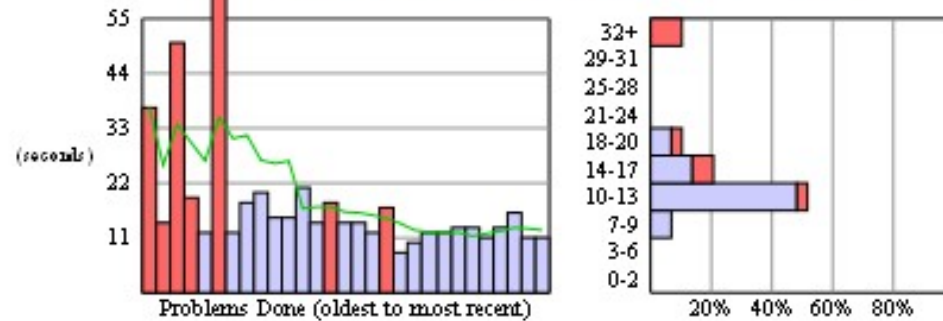
Level 3 linear equations



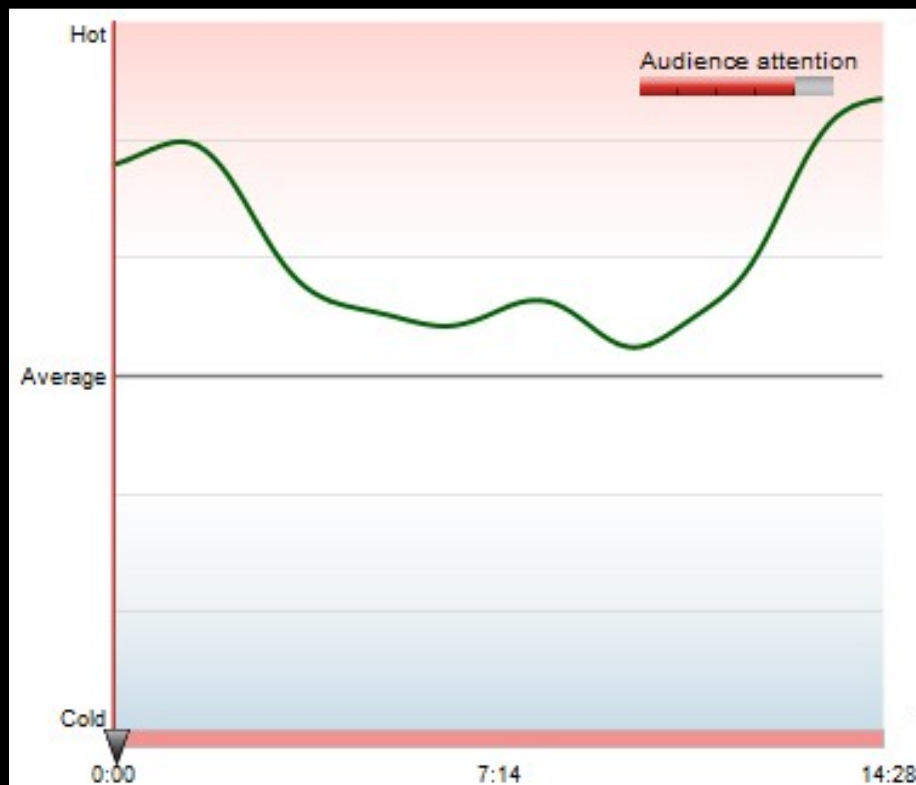
Modules



Adding and subtracting negative numbers

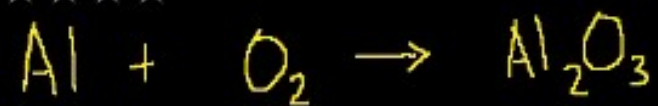


2 33 34 35 36



Balancing Chemical Equations

★★★★★



+

