Math
High school geometry

Not feeling ready for this? Check out Get ready for Geometry.

840 / 9,200 (9%)
Mastery points

Mastery challenge

Strengthen skills you've already practiced in just 6 questions.

Get started

840 / 9,200 (9%)
Mastery points

Course summary

Performing transformations

530/1600 Mastery points

- Intro to Euclidean geometry
- Introduction to rigid transformations
- Translations
- Rotations
- Reflections
- Dilations

Transformation properties and proofs

0/900 Mastery points

- Rigid transformations overview
- Dilation preserved properties
- Properties & definitions of transformations
- Symmetry
- Proofs with transformations

Course challenge
Test your knowledge of the skills in this course.

Congruence

- Transformations & congruence
- Triangle congruence from transformations
- Congruent triangles
- Theorems concerning triangle properties
- Working with triangles
- Theorems concerning quadrilateral properties
- Proofs of general theorems
- Constructing lines & angles

Similarity

160/1000 Mastery points

- Definitions of similarity
- Introduction to triangle similarity
- Solving similar triangles
- Angle bisector theorem
- Solving problems with similar & congruent triangles
- Proving relationships using similarity
- Solving modeling problems with similar & congruent triangles

Right triangles & trigonometry

50/900 Mastery points

- Pythagorean theorem
- Pythagorean theorem proofs
- Special right triangles
- Ratios in right triangles
- Introduction to the trigonometric ratios
- Solving for a side in a right triangle using the trigonometric ra...
- Solving for an angle in a right triangle using the trigonometric...
- Sine & cosine of complementary angles
- Modeling with right triangles

Non-right triangles & trigonometry (Advanced)

0/300 Mastery points

- Law of sines
- Law of cosines

Analytic geometry

50/1000 Mastery points

- Distance and midpoints
- Dividing line segments
- Problem solving with distance on the coordinate plane
- Parallel & perpendicular lines on the coordinate plane
- Equations of parallel & perpendicular lines

Conic sections

0/800 Mastery points

- Graphs of circles intro
- Standard equation of a circle
- Expanded equation of a circle
- Focus and directrix of a parabola

Circles

0/900 Mastery points

- Circle basics
- Arc measure
- Arc length (from degrees)
- Introduction to radians
- Arc length (from radians)
- Sectors
- Inscribed angles
- Inscribed shapes problem solving
- Proofs with inscribed shapes
- Properties of tangents
- Constructing regular polygons inscribed in circles
- Constructing circumcircles & incircles
- Constructing a line tangent to a circle

Solid geometry

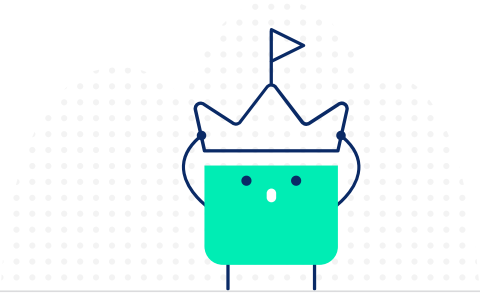
50/900 Mastery points

- 2D vs. 3D objects
- Cavalieri's principle and dissection methods
- Density

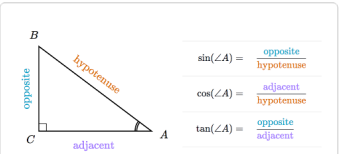
Course challenge

Test your knowledge of the skills in this course. Have a test coming up? The Course challenge can help you understand what you need to review.

Start Course challenge



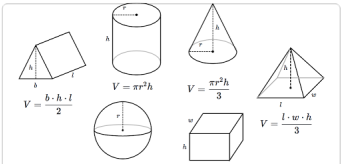
Review articles



Article

Right triangle trigonometry review

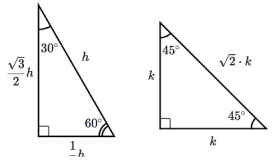
Modeling with right triangles



Article

Volume formulas review

Volume and surface area



Article

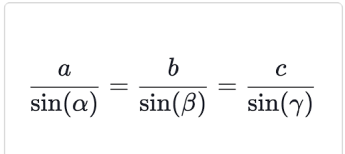
Special right triangles review

Special right triangles

Article

Triangle similarity review

Introduction to triangle similarity



Article

Laws of sines and cosines review

Solving general triangles

Community questions