

Mathematics Class Slides

Bronx Early College Academy

Chris Huson

4 November 2019

5.1 Transformations intro, dilation constructions, 4 November

5.1 Transformations intro, dilation constructions, 4 November

5.2 Sum of a polygon's internal angle measures, 6 November

GQ: How do we construct a triangle with double the side lengths?

CCSS: HSG.CO.A.1 Know precise geometric definitions

5.1 Monday 4 Nov

Do Now: Exam early finishers problems

1. Modeling geometric situations with an algebraic equation
2. Complex angle combinations
3. Constructions with a purpose

Review exam results; Test corrections due Friday

Dilation constructions

Lesson: Translation, dilation, reflection

Homework: Problem set 5-1 Khan Academy transformations (due Tuesday 10:00PM)

GQ: How do we notate transformations?

CCSS: HSG.CO.A.1 Know precise geometric definitions

5.1 Monday 4 Nov

Terminology and notation for transformations

1. A preimage is mapped to the image, $A \rightarrow A'$
2. Translation or slide: $T_{+1,-3}$ or $(x, y) \rightarrow (x + 1, y - 3)$
(or as a vector or arrow)
3. Rotation around a point by an angle measure, $R_{30^\circ, (0,0)}$
4. Reflection over a line, r_{x-axis}
5. Dilation by a factor k centered at a point, $D_{\times 2, (0,0)}$

Rigid motions or isometries are transformations that maintain lengths and angles (translation, reflection, rotation, but not dilation)

GQ: How do we calculate the sum of a polygon's internal angle measures?

CCSS: HSG.CO.A.1 Know precise geometric definitions

5.2 Wednesday 6 Nov

Do Now: Area and perimeter, volume

- ▶ Area of a rectangle, parallelogram, and triangle
- ▶ Volume of a rectangular prism
- ▶ Solving for a missing dimension given the area or volume

Lesson: Polygons, the volume formula for a pyramid

Sum of a polygon's internal angle measures is $(n - 2) \times 180^\circ$

Homework: Problem set 4-4 Khan Academy polygon internal angles