

# Mathematics Class Slides

## Bronx Early College Academy

Chris Huson

18 October 2018

4.1 Transversals & parallel lines, 18 October

4.2 Sum of a triangle's internal angle measures is 180 degrees, 21 October

4.3 Laptops - Revision of angle bisector, 22 October

4.4 Sum of a polygon's internal angle measures, 23 October

4.5 Triangle and polygon external angle measures, radicals, 24 October

4.6 Laptops - Quiz, polygon angle sum table in Word, 25 October

## GQ: How do we work with parallel lines?

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

4.1 Friday 18 Oct

On scrap paper, practice constructions

1. A perpendicular through a point on a lines
2. Bisect an obtuse angle
3. Spicy: a hexagon (six adjacent equilateral triangles)

Review Khan Academy homework (worksheet homework makeup)

Lesson: Parallel lines crossed by a transverse line

Corresponding angles, alternate and same-side relationships

Axiom: corresponding angles are congruent when a transverse line intersects two parallels

Homework: Problem set 4-1 online Khan Academy

## GQ: How do we calculate the sum of a $\triangle$ 's internal angle measures?

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

4.2 Monday 21 Oct

### Exam followup

1.  $B$  bisects  $\overline{AC}$  with  $AB = 3x$ ,  $AC = 24$ . Diagram & solve.
2. A ray's end point is  $T$ . It extends through point  $P$ . Diagram & name using proper notation.
3. Dr. Huson commutes from 80th Street. At what street is he half way to BECA?
4. Exam early finishers problems

Review exam results; Test corrections due **Friday**

Peer review of angle bisector papers

Lesson: Sum of a triangle's internal angle measures is  $180^\circ$

Homework: Problem set 4-2 Khan Academy complex angle situations

## GQ: How do we construct an angle bisector?

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

4.3 Tuesday 22 Oct

### Laptops: Construct an angle bisector

1. Use Geogebra to construct an angle bisector
2. Write a short (one page) paper presenting your work
  - ▶ Use MS Word and follow MLA standards. (save as a template to the cloud)
  - ▶ What is the first step in your construction? What is its center?
  - ▶ How does Geogebra adjust the circles and rays as you move things around?

Early finishers: Khan Academy practice with parallel lines and triangles

Homework: Pretest problem set 4-3

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

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

4.4 Wednesday 23 Oct

### 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

## GQ: How do we work with square roots?

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

4.5 Thursday 24 Oct

Do Now: angle measures in parallelogram and polygon situations

1. Triangle external angles
2. Consecutive internal angles of a parallelogram
3. Polygon external angles

Types of quadrilaterals, area of a trapezoid

Triangle inequality theorem

Lesson: simplifying radicals, rounding

Test corrections due tomorrow

Homework: 4-5 Khan Academy Triangle side length rules

## GQ: How do we communicate patterns polygons follow?

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

4.6 Friday Oct

### Do Now Quiz: Khan Academy assignment

1. Assignment: Quiz #2 & Quiz #3
2. Show work on lined paper, hand in

Project: Investigate polygon internal angles

Write a paper, including a table of the sum of the measures of internal angles versus number of sides of a polygon

Homework: Problem set 4-6