

# 10th Grade Geometry - Unit 9 Angle Relationships

Bronx Early College Academy

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25 March 2019

9.1 Internal & external triangle angles, transversals Monday 25 March

9.2 Geogebra - Common angular situations: triangles, transversals Tuesday 26 March

9.3 Isosceles triangles Thursday 28 March

9.4 Circle angles Friday 29 March

9.5 Prep for Mock Regents Monday 1 April

9.6 Sector areas, arc lengths Thursday 4 April

9.7 Volume situations Friday 5 April

9.8 Sectors, arcs, and chords Monday 8 April

9.9 Deltamath practice Tuesday 9 April

9.10 Compound shape areas and volumes Wednesday 10 April

## GQ: How do we name the angles of a transversal intersecting parallels?

CCSS: HSG.CO.D.12 Congruence, geometric constructions

9.2 Monday 25 March

### Do Now Triangle angles handout

1. Internal & external angles sums of a triangle
2. Solving algebra embedded in geometry situations
3. Vertical, complementary, and supplementary relationships

Lesson: Common angular situations: intersections, triangles, transversals

Homework: Practice problems handout

## GQ: How do we use technology to explore geometry?

CCSS: MP5 Use appropriate tools strategically: dynamic geometry software 9.2 Tuesday  
26 March

### Project: Polygon sum of internal angles theorem

1. Write a paper illustrating why a polygon's internal angles sum to  $S = (n - 2)180^\circ$ , where  $n$  is the number of sides
2. Spicy: Use color & line variations for clarity (not decoration)
3. Construct in Geogebra, compile in Word: add heading & title, text, and formulas using Microsoft's equation editor
4. Email me: Last-Title.pdf, with subject line & message
5. Rubric: correct, aesthetics, MLA & email standards

SAT tomorrow, Test corrections due Thursday

Homework: Complete project (due by 10:00 pm), problem set

## GQ: How do we analyze isosceles triangles in situations?

CCSS: HSG.CO.D.12 Congruence, geometric constructions

9.3 Thursday 28 March

### Do Now Triangle angles handout

1. Internal & external angles sums of a triangle
2. Vertical, complementary, and supplementary relationships
3. Solving algebra embedded in geometry situations

Lesson: Isosceles base angle theorem, circle radii

Homework: Practice problems handout

## GQ: How do we name the angles within a circle?

CCSS: HSG.CO.D.12 Congruence, geometric constructions

9.4 Friday 29 March

### Do Now Quiz: Isosceles triangles handout

1. Isosceles base angle theorem
2. External angle theorem applications
3. Dilation & similar triangle review
4. Solving algebra embedded in geometry situations

Lesson: Central angle measures, included half-angle theorem

Assessment: Mock Regents Tuesday

Homework: Practice problems handout

## GQ: How do we calculate the angles of secant and chord intersections?

CCSS: HSG.CO.D.12 Congruence, geometric constructions

9.5 Monday 1 April

Do Now: Inscribed and central angles handout

1. Central angle measures
2. Included (half-angle) theorem

Lesson: Chord and secant angle versus arc measure theorems

Homework: Study for Mock Regents tomorrow

## GQ: How do we calculate the measures of part of a circle?

CCSS: HSG.CO.D.12 Congruence, geometric constructions

9.6 Thursday 4 April

### Do Now: Angle relationships handout

1. Area calculations
2. Circle angle measures
3. Scale factor

Homework review: Circle angle formulas

Lesson: Portions of a circle, sector areas & arc lengths

Homework: Practice problems handout



## GQ: How do we apply angle relationships?

CCSS: HSG.CO.D.12 Congruence, geometric constructions

9.7 Friday 5 April

### Do Now: Angle relationships handout

1. Area calculations
2. Circle angle measures
3. Scale factor

Lesson: Portions of a circle, sector areas & arc lengths  
Substitute coverage for 10.1

Homework: Practice problems handout

## GQ: How do we apply angle relationships?

CCSS: HSG.CO.D.12 Congruence, geometric constructions

9.8 Monday 8 April

### Do Now Similar triangle handout

1. Naming corresponding relationships
2. Determining equal ratios (to scale factor)
3. Applying similarity relationships in situations

Lesson: Substitute coverage

Homework: Practice problems handout

## GQ: How do we apply angle relationships?

CCSS: HSG.CO.D.12 Congruence, geometric constructions

9.9 Tuesday 9 April

### Do Now: Deltamath problem set

1. Naming corresponding relationships
2. Determining equal ratios (to scale factor)
3. Applying similarity relationships in situations

Lesson: Dilation, proportion, and similarity

Homework: Complete Deltamath assignment

## GQ: How do we combine simple shapes?

CCSS: HSG.CO.D.12 Congruence, geometric constructions 9.10 Wednesday 10 April

### Do Now: Sectors, secants, and chords handout

1. Naming corresponding relationships
2. Determining equal ratios (to scale factor)
3. Applying similarity relationships in situations
4. Secant and chord angle relationships to arc measures

Lesson: Compound shape areas and volumes

Assessment: Circles quiz Friday

Homework: Practice problems handout