

# 10th Grade Geometry - Unit 13: Regents Review

Bronx Early College Academy

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13.1 Scale & applications of dilation Tuesday 28 May

13.2 Similarity review Wednesday 29 May

13.3 Constructions Thursday 30 May

13.4 Constructions, Similarity quiz Friday 31 May

13.5 Slope review Wednesday 5 June

13.6 Similarity review Friday 7 June

13.7 Transformations review Monday 10 June

13.8 Distance review Tuesday 11 June

13.9 Circles & trig review Wednesday 12 June

13.10 Similar & congruent triangles Friday 14 June

## GQ: How do we use scale factors?

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

13.1 Tuesday 28 May

### Do Now: Handout

1. Using scale factors
2. Real world situations

Guest teacher, Mr. Segal. Applications of scale factors in finance.

Homework: Problem set, test corrections due Thursday

## GQ: How do we use scale factors?

Triangle similarity: for your notebook

Given

$$\triangle ABC \sim \triangle DEF$$

Equivalently

$$\triangle ABC \rightarrow \triangle DEF$$

Complete the three line segment correspondences, three scale factor ratios, & three dilations.

$$1. \overline{AB} \rightarrow \overline{DE}$$

$$1. k = \frac{DE}{AB}$$

$$1. DE = k \times AB$$

$$2. \overline{BC} \rightarrow$$

$$2. k =$$

$$2. EF = k \times$$

$$3. \overline{AC} \rightarrow$$

$$3. k =$$

$$3. DF = k \times$$

What happens if  $k = 1$ ?

## GQ: How do we use scale factors?

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

13.2 Wednesday 29 May

### Do Now: Quadrilateral properties

1. Given a list of features, identify the applicable quadrilateral
2. Early finishers: Triangle congruency proofs

ASA proof of a parallelogram's congruent triangles, implications

Pretest packet: volume, trig, analytic geometry

## GQ: How do we use scale factors?

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

13.3 Thursday 30 May

### Do Now: Similarity transformation

1. List what segments map to what segments
2. Find  $k$  as a ratio, apply it to each length.

Binder check

Classical constructions using compass & straightedge

Homework: Problem set

## GQ: How do we use scale factors?

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

13.4 Friday 31 May

Do Now handout: Constructions, dilation problems  
Classwork review

Assessment: Exit quiz (& Binder check)

1. Angle bisector, perpendiculars constructions
2. Dilation situations
3. Similarity proof situations

Homework: Review packet;

Quiz corrections due Wednesday (pick up Monday)

Monday Regents review after History exam, Melrose Library

## GQ: How do we apply slope calculations?

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

13.5 Wednesday 5 June

### Do Now: Handout

1. Duplicate a line segment & an angle
2. Parallel & perpendicular slopes

Circle equations

Assessment: Exit quiz covering slope applications

Review packet: Triangles, parallels, circle equations, intersections



## Equations of circles in different forms

Use algebra, the distributive property

Take notes in your notebook

1. State the center & radius of  $x^2 + (y - 1)^2 = 25$
2. Write the equation of a circle centered at  $(2, 3)$  with  $r = 3$
3. True or false:  $(x - 2)^2 = x^2 - 4x + 4$ ?
4. Is  $x^2 - 4x + y^2 = 5$  a circle?
5. Which equation represents a circle with center  $(2, 3)$  &  $r = 5$ ?

5.1  $x^2 - 4x + y^2 - 6y = 25$

5.2  $x^2 - 4x + y^2 - 6y = 12$

## GQ: How do we calculate the measure of angles?

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

13.6 Friday 7 June

### Do Now: Angle measures

1. Vertical, supplementary, complementary angles
2. Triangle internal & external angles theorems
3. Parallel lines with transversals

Assessment: Exit quiz covering angle measure situations

It is your responsibility to complete projects and check Pupilpath

Review packet: Transformations

## GQ: How do we transform objects to their image?

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

13.7 Monday 10 June

### Do Now: Transformations

1. Transformation, reflection, rotation, dilation
2. Symmetry & transformations onto itself
3. Segment partitions by a ratio
4. Cross sections

Assessment: Exit quiz covering transformations

Review packet: Transformations

## GQ: How do we calculate distances?

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

13.8 Tuesday 11 June

### Do Now: Distance

1. Pythagorean formula
2. Using distance in proof
3. Midpoint, midpoint extension
4. Slant length situations

Assessment: Exit quiz covering distance situations

Review packet: Circles & trigonometry

## GQ: How do we use angle measures?

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

13.9 Wednesday 12 June

### Do Now: Trigonometry

1. Right triangle ratios
2. Applications, trig situations
3. Expanding circle equations
4. Sector arc and area calculations

Assessment: Exit quiz covering circles & trig situations

Review packet: Circles & trigonometry

## GQ: How do we use triangle similarity?

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

13.10 Friday 14 June

### Do Now: Similar triangles

1. Applying dilation ratios
2. Right triangle altitude situations
3. Congruent triangle theorems, CPCTC
4. Writing proofs

Assessment: Exit quiz covering similar triangle situations

Review packet: comprehensive Regents overview