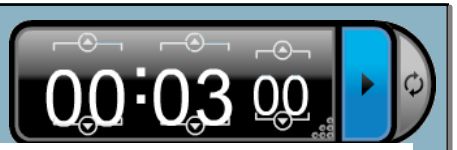
9/27 Do Now



DO NOW Name_____ Date_____ Per_____

(1) Why is it important in life to know when things are parallel?

(2) When do we use the term "parallel" when we are not talking about math?

SLO: I can identify and name parallel lines and angle relationships involving parallel lines and use the angle relationships to write and solve equations.

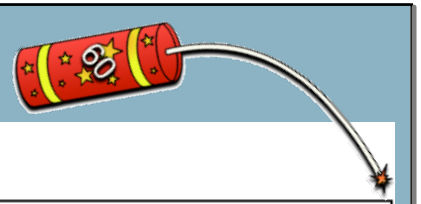
NYS Standard: **G.G.35** Determine if two lines cut by a transversal are parallel, based on the measure of given pairs of angles formed by the transversal and the lines

9/27 Announcements

SLO: I can identify and name parallel lines and angle relationships involving parallel lines and use the angle relationships to write and solve equations.

NYS Standard: **G.G.35** Determine if two lines cut by a transversal are parallel, based on the measure of given pairs of angles formed by the transversal and the lines

9/27 Assignment sheet



Class _____ Period _____

DATE	CLASSWORK ASSIGNMENT		HOMEWORK ASSIGNMENT	
9/24	Test Review, Unit 1 work Perfection	due 9/17	Unit 1 Summary	due 9/25
9/25	Unit 1 Test	due 9/25	GET A COMPASS!!!	due 9/26
9/26	Unit 2 PreTest & Unit 1 reflection	due 9/26	GET A COMPASS!!!	due 9/27
9/27	Parallel lines angle relationships	due 9/27	Parallel lines angle relationships HW	due 9/28
9/28	Proving Lines are Parallel	due 9/28	Proving Lines are Parallel	due 10/1
10/1	Parallel Lines Problem Solving	9/28	Parallel lines Problem Solving	10/1

SLO: I can identify and name parallel lines and angle relationships involving parallel lines and use the angle relationships to write and solve equations.

NYS Standard: **G.G.35** Determine if two lines cut by a transversal are parallel, based on the measure of given pairs of angles formed by the transversal and the lines

9/27 HW Check and Questions

SLO: I can identify and name parallel lines and angle relationships involving parallel lines and use the angle relationships to write and solve equations.

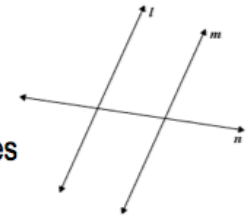
NYS Standard: **G.G.35** Determine if two lines cut by a transversal are parallel, based on the measure of given pairs of angles formed by the transversal and the lines

9/27 Parallel Exploration

CLASSWORK: Parallel Lines, Transversals, and Angle Relationships

Parallel: How can we be sure that lines are parallel? By demonstration? By construction? By graph?

Example: Because they are in the same plane and are always the same distance apart and never intersect, lines ℓ and m are parallel. We show that lines are parallel by marking them with arrows or carrots ^.



SLO: I can identify and name parallel lines and angle relationships involving parallel lines and use the angle relationships to write and solve equations.

NYS Standard: **G.G.35** Determine if two lines cut by a transversal are parallel, based on the measure of given pairs of angles formed by the transversal and the lines

9/27 Parallel Exploration

Explore Parallel Lines:

a. Trace line AB on tracing paper. Slide the tracing paper and make a copy of line AB below the original – try to make it parallel. Label the copy A'B'.

Line AB:

Copy:

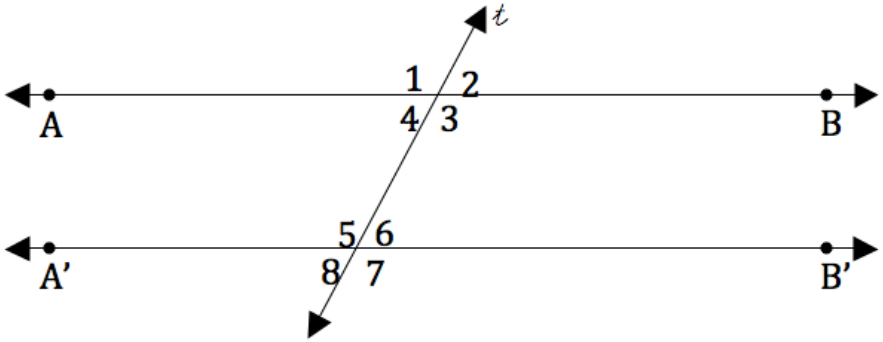
b. Are you absolutely certain that the copy you made is parallel to line AB? Justify why or why not.

SLO: I can identify and name parallel lines and angle relationships involving parallel lines and use the angle relationships to write and solve equations.

NYS Standard: **G.G.35** Determine if two lines cut by a transversal are parallel, based on the measure of given pairs of angles formed by the transversal and the lines

9/27 Parallel Exploration

e. When you slid the copy down, the angles also were copied. ∠1 became ∠ ____ so we can say ∠_____ ≅ ∠_____



∠1 became ∠ ____ so we can say ∠_____ ≅ ∠_____

∠2 became ∠ ____ so we can say ∠_____ ≅ ∠_____

∠3 became ∠ ____ so we can say ∠_____ ≅ ∠_____

∠4 became ∠ ____ so we can say ∠_____ ≅ ∠_____

f. These angle pairs are called **corresponding angles** because they are in the same relative location with respect to the transversal. They are congruent when formed by parallel lines and a transversal.

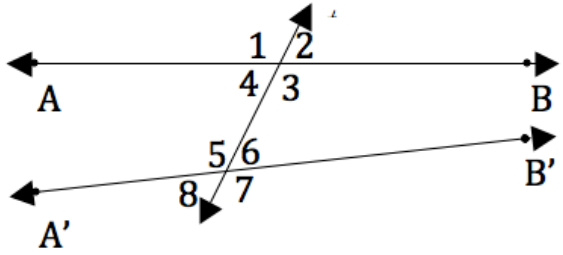
SLO: I can identify and name parallel lines and angle relationships involving parallel lines and use the angle relationships to write and solve equations.

NYS Standard: **G.G.35** Determine if two lines cut by a transversal are parallel, based on the measure of given pairs of angles formed by the transversal and the lines

9/27 Parallel Exploration

CLASSWORK: Parallel Lines, Transversals, and Angle Relationships

g. What if your paper turns and AB and A'B' are not parallel? Are corresponding angles still congruent? Justify why or why not.

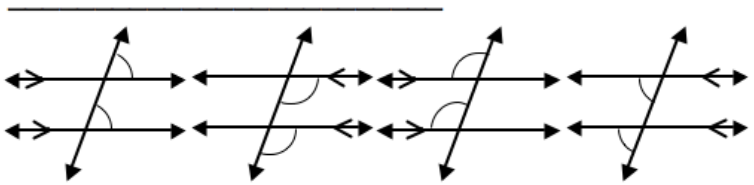


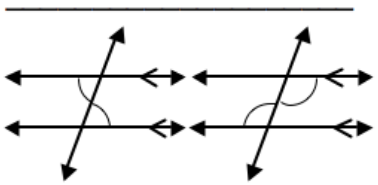
SLO: I can identify and name parallel lines and angle relationships involving parallel lines and use the angle relationships to write and solve equations.

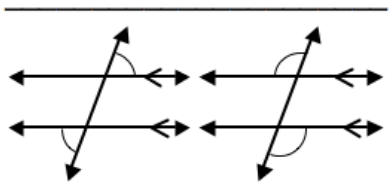
NYS Standard: **G.G.35** Determine if two lines cut by a transversal are parallel, based on the measure of given pairs of angles formed by the transversal and the lines

9/27 Parallel Exploration

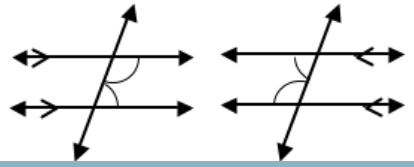
h. What are all of the pairs of angles that are congruent because a transversal intersects 2 parallel lines?







i. Besides angles that are congruent, there are pairs of supplementary angles. Which pairs are supplementary?



SLO: I can identify and name parallel lines and angle relationships involving parallel lines and use the angle relationships to write and solve equations.

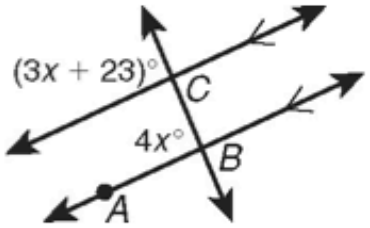
NYS Standard: **G.G.35** Determine if two lines cut by a transversal are parallel, based on the measure of given pairs of angles formed by the transversal and the lines

9/27 Parallel Exploration

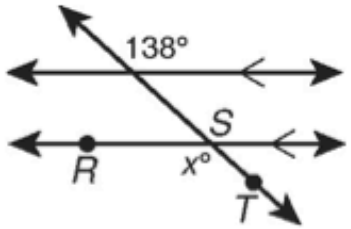
CLASSWORK: Problem Solving with Parallel Lines

Find each angle measure.

3. m∠*ABC*



4. m∠*RST*

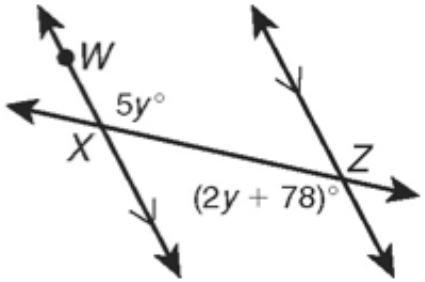


SLO: I can identify and name parallel lines and angle relationships involving parallel lines and use the angle relationships to write and solve equations.

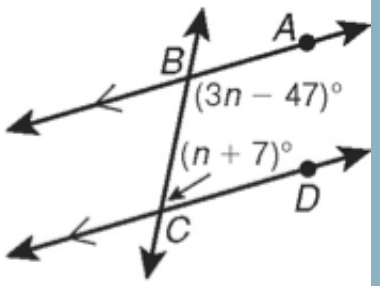
NYS Standard: **G.G.35** Determine if two lines cut by a transversal are parallel, based on the measure of given pairs of angles formed by the transversal and the lines

9/27 Parallel Exploration

11. m∠*WXZ*



12. m∠*ABC*



SLO: I can identify and name parallel lines and angle relationships involving parallel lines and use the angle relationships to write and solve equations.

NYS Standard: **G.G.35** Determine if two lines cut by a transversal are parallel, based on the measure of given pairs of angles formed by the transversal and the lines

9/27 Parallel Exploration

CLASSWORK: Problem Solving with Parallel Lines

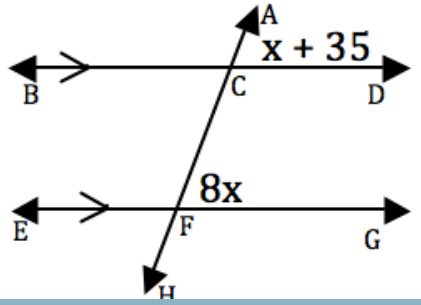
For each diagram:

IDENTIFY the relationship. Match the relationships below to the diagrams.

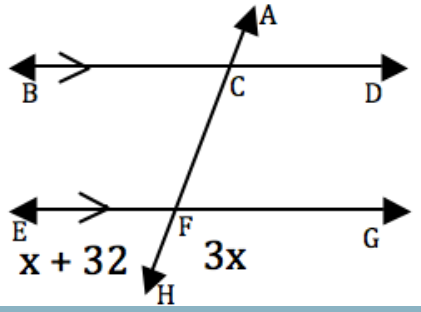
Complementary	Corresponding	Alternate Interior	Alternate Exterior
Supplementary	Vertical	Same Side Interior	

WRITE an equation for pairs that are complementary or supplementary

SOLVE the equation & find the measure of the angle

1. 

Angle ACD

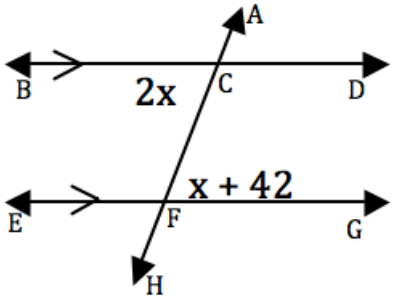
2. 

Angle EFH

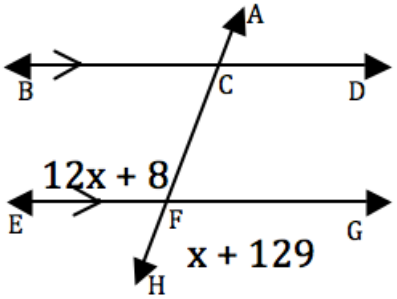
SLO: I can identify and name parallel lines and angle relationships involving parallel lines and use the angle relationships to write and solve equations.

NYS Standard: **G.G.35** Determine if two lines cut by a transversal are parallel, based on the measure of given pairs of angles formed by the transversal and the lines

9/27 Parallel Exploration

3. 

Angle BCF

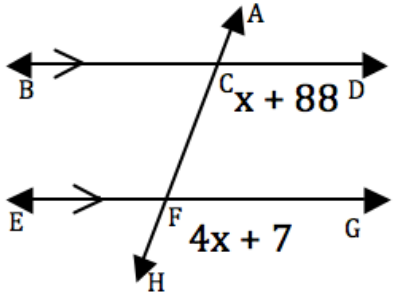
4. 

Angle HFG

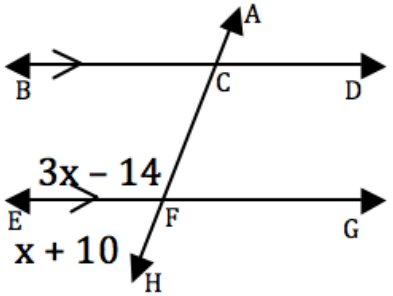
SLO: I can identify and name parallel lines and angle relationships involving parallel lines and use the angle relationships to write and solve equations.

NYS Standard: **G.G.35** Determine if two lines cut by a transversal are parallel, based on the measure of given pairs of angles formed by the transversal and the lines

9/27 Parallel Exploration

5. 

Angle DCF

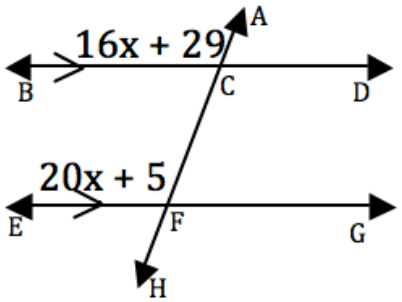
6. 

Angle EFC

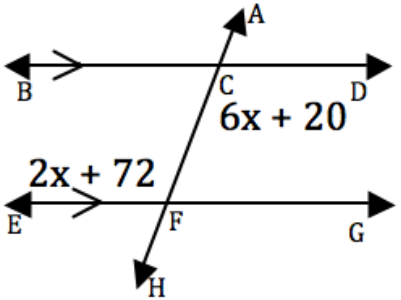
SLO: I can identify and name parallel lines and angle relationships involving parallel lines and use the angle relationships to write and solve equations.

NYS Standard: **G.G.35** Determine if two lines cut by a transversal are parallel, based on the measure of given pairs of angles formed by the transversal and the lines

9/27 Parallel Exploration

9. 

Angle CFE

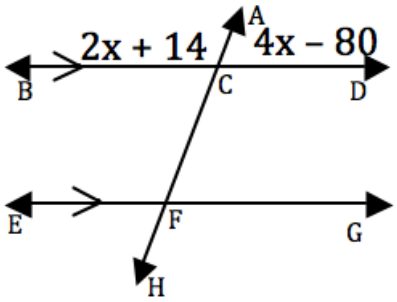
10. 

Angle DCF

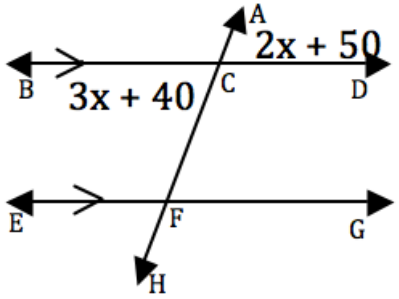
SLO: I can identify and name parallel lines and angle relationships involving parallel lines and use the angle relationships to write and solve equations.

NYS Standard: **G.G.35** Determine if two lines cut by a transversal are parallel, based on the measure of given pairs of angles formed by the transversal and the lines

9/27 Parallel Exploration

11. 

Angle BCA

12. 

Angle BCF

SLO: I can identify and name parallel lines and angle relationships involving parallel lines and use the angle relationships to write and solve equations.

NYS Standard: **G.G.35** Determine if two lines cut by a transversal are parallel, based on the measure of given pairs of angles formed by the transversal and the lines

9/27 Parallel Exploration

HOMEWORK: Problem Solving with Parallel Lines

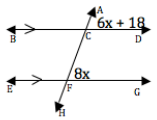
For each diagram:

IDENTIFY the relationship. Match the relationships below to the diagrams.

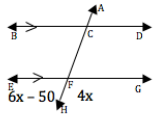
Complementary	Corresponding	Alternate Interior	Alternate Exterior
Supplementary	Vertical	Same Side Interior	

WRITE an equation for pairs that are complementary or supplementary

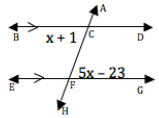
SOLVE the equation & find the measure of the angle

1. 

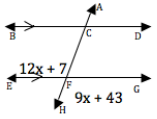
Angle ACD

2. 

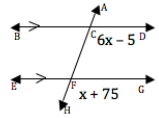
Angle GFH

3. 

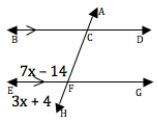
Angle BCF

4. 

Angle HFG

5. 

Angle DCF

6. 

Angle EFC

HOMEWORK: Problem Solving with Parallel Lines

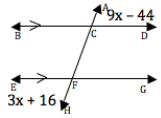
For each diagram:

IDENTIFY the relationship. Match the relationships below to the diagrams.

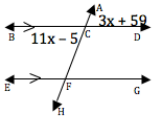
Complementary	Corresponding	Alternate Interior	Alternate Exterior
Supplementary	Vertical	Same Side Interior	

WRITE an equation for pairs that are complementary or supplementary

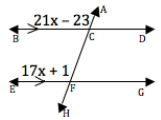
SOLVE the equation & find the measure of the angle

7. 

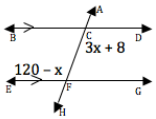
Angle DCA

8. 

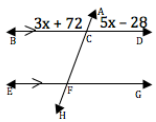
Angle BCF

9. 

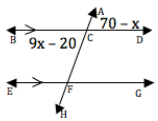
Angle CFE

10. 

Angle DCF

11. 

Angle BCA

12. 

Angle BCF

SLO: I can identify and name parallel lines and angle relationships involving parallel lines and use the angle relationships to write and solve equations.

NYS Standard: **G.G.35** Determine if two lines cut by a transversal are parallel, based on the measure of given pairs of angles formed by the transversal and the lines

9/27 Parallel Exploration

SLO: I can identify and name parallel lines and angle relationships involving parallel lines and use the angle relationships to write and solve equations.

NYS Standard: **G.G.35** Determine if two lines cut by a transversal are parallel, based on the measure of given pairs of angles formed by the transversal and the lines

9/27 Geometry PRIDE

Names & accomplishments

CCSS Standard:

9/27 Ticket Out the Door

SLO: I can identify and name parallel lines and angle relationships involving parallel lines and use the angle relationships to write and solve equations.

NYS Standard: **G.G.35** Determine if two lines cut by a transversal are parallel, based on the measure of given pairs of angles formed by the transversal and the lines

Ticket out the door Name_____ Date_____ Per_____

☹ 1 2 3 4 5 ☺ because:

Rate how well you met today's SLO (Student Learning Objective). What helped you most? What do you still need to work on?

9/17 Quiz

Face desks forward and clear desk except for

Communication of any sort = ZERO

RAISE YOUR HAND silently if you need something

CCSS Standard:

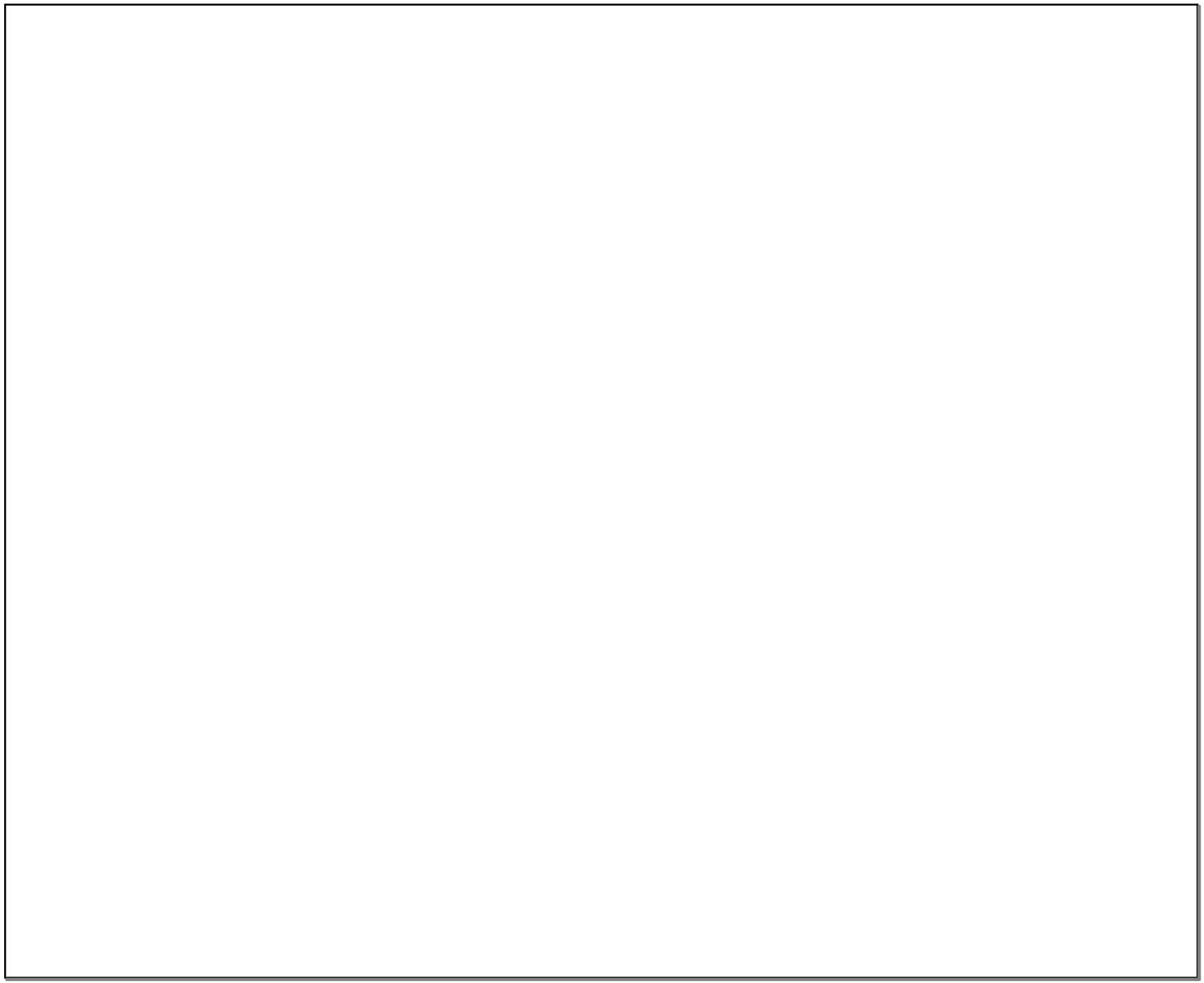
9/17 Test

Face desks forward and clear desk except for

Communication of any sort = ZERO

RAISE YOUR HAND silently if you need something

CCSS Standard:

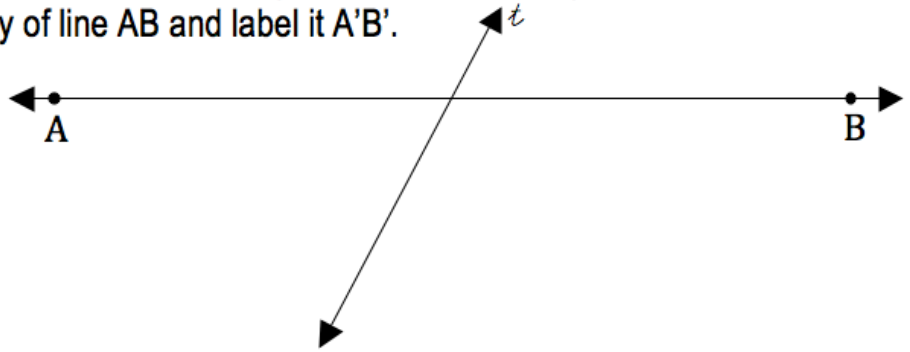


9/27 Parallel Exploration

c. Line up your tracing paper over line AB below and trace line t (called a **transversal**) that crosses line AB. Slide the tracing paper down line t and make a copy of line AB and label it A'B'.

Line AB:

Copy:



d. Are you absolutely certain that the copy you made is parallel to line AB? Justify why or why not.

SLO: I can identify and name parallel lines and angle relationships involving parallel lines and use the angle relationships to write and solve equations.

NYS Standard: **G.G.35** Determine if two lines cut by a transversal are parallel, based on the measure of given pairs of angles formed by the transversal and the lines

9/27 Parallel Exploration

SLO: I can identify and name parallel lines and angle relationships involving parallel lines and use the angle relationships to write and solve equations.

NYS Standard: **G.G.35** Determine if two lines cut by a transversal are parallel, based on the measure of given pairs of angles formed by the transversal and the lines