Parallel Lines Project

Objectives:

1. Students will demonstrate their knowledge of parallel lines with a transversal.
2. Students will show when angles are congruent or supplementary given parallel lines and a transversal.

Materials needed:

- Pencil
- Colored pencils or markers
- Ruler
- Paper (graph paper, if desired)

Overview:

For this project, each student will make his or her own street map for a fictional city (you must name your city). This city will consist of:

1. Six (6) streets that are parallel to each other. Each street should be named for reference.
2. Two (2) transversal streets. (i.e., two or more streets that intersect all six of the above streets). These should be named as well. **Do *not* make the transversals parallel to each other!!!**

   Note: Streets are created by 2 lines! So 6 parallel and 2 transversal streets = at least 16 lines!
3. Traffic lights or stop signs at four (4) different intersections.
4. The following buildings, represented in your city:
   a. Post office
   b. Bank
   c. Fire Department
   d. Police Station
   e. Gas Station
   f. School
   g. Restaurant
   h. Grocery Store
   i. Courthouse
   j. Your own house

Instructions on the back of this page---------->

Instructions:

The point of this project is not to place these buildings anywhere, but to demonstrate your understanding of different angles, as well as to understand when they are supplementary or congruent. You can still be creative in doing so, but please place the buildings in the following locations.

1. Your house and the school at congruent alternate interior angles.
2. The post office and the bank at same side interior angles.
3. The fire department and police station at congruent alternate exterior angles.
4. The restaurant and courthouse at *non-congruent* alternate interior angles.
5. The gas station and grocery store at congruent corresponding angles.

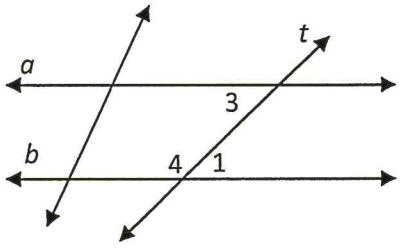
Note: You WILL create a rough draft sketch of your city prior to your final draft. You will turn both drafts in for credit.
The rough draft DOES NOT need to be colored or have detail – just the outline of your streets and where your buildings will be placed.

Remember to be creative. You may be as artistic as you would like in drawing the buildings/roads, but be sure to label each one. (Creativity will earn extra points).

Proofs:

After you are done creating your city map, you will write a two column proof to prove that 2 of the 4 above angle pair relationships are true (cannot do #4). You can pick which ever two you want to prove and label the angles as <1, <2, <3, etc. You will also label your lines so you can use the labels in your proofs. You will sketch a miniature model of your town to show what you are proving with the lines and angles labeled.

Sketch Example:



For both of your proofs, you will start with the following given information:

Line ___ and Line ___ are parallel.

(The blank would be filled in by you with the line label or name you gave in your project)

*Details and project requirements may be changed/revised prior to completion.

Rubric for Project: Parallel lines (Turn in with Project)

Number of Points	Category	Points Earned	Comments
1	Name of City		
3	Name of Each Street		
1	Two Transversal Streets (named)		
2	Traffic lights or stop signs at four (4) different intersections		
1	Your house and the school at congruent alternate interior angles.		
1	The post office and the bank at same side interior angles.		
1	The fire department and police station at congruent alternate exterior angles.		
1	The restaurant and courthouse at *non-congruent* alternate interior angles.		
1	The gas station and grocery store at congruent corresponding angles.		
2	Neatness		
2	Creativity		
4	Proofs		
Total Points: **20**		**Points Earned:**	