**Geometry**

**City Project-Parallel Lines**

You are to design your own city. Your city will have a name and population which must be placed at the top of your project. Your city must have the following characteristics, be neatly constructed, be correctly described, and all buildings must be correctly located and colored to receive full credit.

This section of the city must have these features in its layout:

1.) 6 Streets Parallel to each other, named

2.) 2 Transversal Streets, named

The following buildings must be in your city and you must justify why you chose to place them where you did. Plan this first, then start constructing the city. It may be hard to find 12 angle relationships that make sense with only 12 buildings. This is why you have partners.

1.) Your house 7.) Movie Theater

2.) High School 8.) Pharmacy/Drug Store (like CVS)

3.)Courthouse 9 and 10.) Two gas stations

4.) Bank 11.) An elementary school

5.) Grocery Store 12.) City Hall

6.) A park

You must describe your city by writing about the angle relationships in it.

You must describe at least two of each type of angle relationship by naming the buildings that are located as

1. Vertical
2. A Linear Pair
3. Alternate Interior
4. Alternate Exterior
5. Consecutive Interior
6. Corresponding

and explain why you chose to build them in those locations. Use the street names and refer to them as parallels or a transversal.

**For example:**

The \_\_\_\_\_\_\_\_\_\_ and the \_\_\_\_\_\_\_\_\_\_\_ are on Main Street, which is a transversal, between the parallel 1st and 2nd Streets. They are alternate interior to each other because we wanted people to be able to walk from one to the other without having to cross more than one big street.

Each building must be labeled or a picture of the building should be used. Your final project will be turned in on construction paper or a poster paper. You may also do the whole project on a computer but it needs to be printed and pasted onto a poster board. The buildings can be drawn or cut out from pictures. Either way, it must be colorful. **All land lots that occupy congruent spaces must be color-coded so they match.** The building can be any color as long as the land beneath it is visible. The supplementary angles should automatically end up color-coded so they’re different colors from each other. Provide a legend that tells me what each color means.

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| --- | --- | --- | --- | --- |
| Group Members |  |  |  |  |
| Phone Numbers |  |  |  |  |
| Email Addresses |  |  |  |  |
| Responsibilities |  |  |  |  |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Criteria** | **1 pt** | **2 pts** | **3 pts** | **4 pts** | **Your Points** |
| **Parallel streets** | 2 parallel streets | 4 parallel streets | 5 parallel streets | 6 parallel streets |  |
| **Transversal** | 1 transversal | 1 transversal, named | 2 transversals | 2 transversals, named |  |
| **Vertical**  **(Pair 1 and Pair 2 graded separately and each worth 4 points)** | Identifies two locations incorrectly | Identifies two locations correctly. | Identifies two locations correctly, names the intersecting streets correctly. | Identifies two locations correctly, names the intersecting streets correctly. Also justifies why those locations were chosen. |  |
|  |
| **Linear Pair**  **(Pair 1 and Pair 2 graded separately and each worth 4 points)** | Identifies two locations incorrectly | Identifies two locations correctly. | Identifies two locations correctly, names the intersecting streets correctly. | Identifies two locations correctly, names the intersecting streets correctly. Also justifies why those locations were chosen. |  |
|  |
| **Corresponding**  **(Pair 1 and Pair 2 graded separately and each worth 4 points)** | Identifies two locations incorrectly | Identifies two locations correctly. | Identifies two locations correctly, names the transversal correctly, and identifies the parallel lines. | Identifies two locations correctly, names the transversal correctly, and identifies the parallel lines. Also justifies why those locations were chosen. |  |
|  |
| **Alternate Interior**  **(Pair 1 and Pair 2 graded separately and each worth 4 points)** | Identifies two locations incorrectly | Identifies two locations correctly. | Identifies two locations correctly, names the transversal correctly, and identifies the parallel lines. | Identifies two locations correctly, names the transversal correctly, and identifies the parallel lines. Also justifies why those locations were chosen. |  |
|  |
| **Alternate Exterior**  **(Pair 1 and Pair 2 graded separately and each worth 4 points)** | Identifies two locations incorrectly | Identifies two locations correctly. | Identifies two locations correctly, names the transversal correctly, and identifies the parallel lines. | Identifies two locations correctly, names the transversal correctly, and identifies the parallel lines. Also justifies why those locations were chosen. |  |
|  |
| **Consecutive Interior**  **(Pair 1 and Pair 2 graded separately and each worth 4 points)** | Identifies two locations incorrectly | Identifies two locations correctly. | Identifies two locations correctly, names the transversal correctly, and identifies the parallel lines. | Identifies two locations correctly, names the transversal correctly, and identifies the parallel lines. Also justifies why those locations were chosen. |  |
|  |
| **Congruent Angles are Color-coded** | Identifies at least two congruent angles | Forgets or mis-colors more than 2 angles | Forgets or mis-colors 1 or 2 angles | Identifies all congruent angles with the same colors and provides a legend. |  |
| **Supplementary Angles are Color-coded** | Identifies at least two angles that are supplementary to the angles identified above. | Forgets or mis-colors more than 2 angles | Forgets or mis-colors 1 or 2 angles | Identifies all pairs of supplementary angles by color-coding correctly and providing a legend. |  |
| **Aesthetic Quality** | Legible | Neat but not colorful | Neat, colorful, and buildings resemble real versions. | Beautiful. Worthy of being hung up on the wall. |  |