City Design Project

You are the designer of your own city. You will demonstrate your knowledge of parallel lines with a transversal and your knowledge of angle pairs formed by the intersection of the lines.

**A) Your city must include all of the following details to receive full credit.**

1. Your city must have a name placed at the top of your project (school appropriate).

2. Six parallel streets (each street must be named and clearly labeled)

3. Two transversal streets which intersect all six parallel streets but are not parallel to each other (each street must be named and clearly labeled)

4. One street perpendicular to any one of the transversals. (clearly named and labeled)

5. Place traffic lights or stop signs at 4 different intersections.

**B) The following locations must be placed and clearly labeled as directed (all names must be school appropriate):**

6. A gas station and a restaurant (at alternate exterior angles)

7. Your home and a school (at consecutive angles)

8. A post office and a bank (at vertical angles)

9. A fire department and a police station (at corresponding angles)

10. A library and a park (at alternate interior angles)

**C) The design:**

* This city can be based on your neighborhood, a neighborhood from a TV show or movie, or one that you totally create in your head.
* Think outside of the box! Color should be used in some form whether it is marker, crayon, colored pencil, or color pictures.
* Use your graph paper to create your city!
* Be creative & artistic as you like in drawing the buildings and roads, but remember to label each one!
* Also, make sure you use a ruler to keep your lines neat!

Interactive Checklist

Use the following checklist when designing your city:

|  |  |
| --- | --- |
| **Design:** \_\_\_ City Name placed at the top of your project \_\_\_ At least 6 parallel streets \_\_\_ At least 2 transversals streets \_\_\_ At least 1 perpendicular street to any transversal street \_\_\_ Traffic lights or stop signs at 4 different intersections \_\_\_ Streets and buildings are drawn and labeled neat and legibly \_\_\_ Color used in some form \_\_\_ Graph paper | **Locations:** \_\_\_ A gas station and a restaurant (at alternate exterior angles) \_\_\_Your home and a school (at consecutive angles) \_\_\_ A post office and a bank (at vertical angles) \_\_\_ A fire department and a police station (at corresponding angles) \_\_\_ A library and a park (at alternate interior angles) |

Rubric

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Exceeds Standards4 | Meets Standards3 | Approaching Standards2 | Far Below Standards1 |
| Overall City Design | The city has a name, 6 parallel lines, two transversals, and one perpendicular street all clearly named and labeled. | The city has a name, 6 parallel lines, two transversals, and one perpendicular street that are not all clearly named and labeled. | The map does not feature parallel and perpendicular (grid) streets. Streets are not named. | The city does not have a name. The map does not feature streets. |
| Location of Landmarks | The map uses appropriate positioning based on the given angle pairs for all 10 landmarks. | The map uses appropriate positioning based on the given angle pairs for 8 or above landmarks. | The map uses appropriate position based on the given angle pairs for fewer than 8 landmarks and/or errors are made in positioning angle pairs. | This map does not include landmarks. |
| Extended Response Question | The student writes a total of five complete sentences that are mathematically accurate. | The student writes five incomplete sentences that are mathematically correct. | The student writes five incomplete sentences that are mathematically incorrect. | The student writes less than five incomplete sentences that are mathematically incorrect. |
| Presentation, Creativity, and Neatness | Map is drawn neatly, is easy to navigate, and creativity is shown using colors. | The map is drawn neatly, is easy to navigate, but lacks creativity using colors. | Map shows little to no creativity and is messy, but can be navigated. | Map is very messy, not able to be navigated with no creativity shown. |

Total Score/ Comments: Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_

Extended Response

**In one sentence, explain what you know about the measures of the following pairs of angles:**

Alternate Interior Angles: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Alternate Exterior Angles:

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Corresponding Angles:

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Consecutive Angles:

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Vertical Angles:

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_