

Name: _____

Unit 5 Real World Experience

Geometry Town



In your role as a town planner, you have been asked to plan a new part of your town. You will create a model of your plan, including 2-D models of the buildings, to present to the committee.

Materials: 1 inch grid paper
Pencil
Colored pencils
Ruler

Task 1: You will use your geometry knowledge to design a town and draw the design using the given geometric criteria.

You are required to use the following specifications to design your town:

- 4 streets that appear to be parallel to each other
- 1 road that appears to be perpendicular to the 4 parallel streets
- 1 avenue that intersects at least 2 streets but is not perpendicular to them
- 8 buildings that have specific shape requirements:
 - 2 of the buildings have to be represented, on your design, with different shaped polygons with at least one right angle and at least one set of parallel sides in each. Draw these in **RED**.
 - 2 of the buildings have to be represented, on your design, with different shaped polygons with no parallel or perpendicular sides. Draw these in **BLUE**.
 - 2 of the buildings have to be represented, on your design, with different shaped polygons with at least one obtuse angle. Draw these in **GREEN**.
 - 2 of the buildings have to be represented, on your design, with different shaped buildings that are right triangles. Draw these in **YELLOW**.
- 1 park shaped like a right triangle with the following features:
 - A swimming pool in the shape of a figure that has only acute angles
 - A right triangular sandbox
 - A triangular garden with an obtuse angle

*Label all features.

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Good news! The planning commission reviewed your design, and they like what they see, but they recommend you make some minor adjustments to your design. The commission feels there should be an additional park in the town.

Task 2: Revise your town design to include the suggestions of the planning commission listed below.

- 1 symmetrical shaped park with at least 4 different geometric figures to represent playground equipment. Label the equipment.
- Draw a dotted/dashed line to represent at least one line of symmetry in the park
- Name all parks, streets, road, and avenue.
- Name your town!

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You will now use your design to create a model of your plan that includes 2-D models of the buildings.

Materials:

Chart paper/Butcher Block Paper

1" x 24" strips of black or brown paper for streets, road, and avenue.
(approximately 12 strips per city model)

Pencil, colored pencils, markers

Protractors, rulers, yardsticks

Construction paper (red, blue, green, and yellow)

Task 3:

- Using your math tools available, place the strips of paper **correctly** on the chart paper according to your design to represent the streets, avenue, and road.
- On the appropriate colored paper, use your math tools to accurately draw the 8 different building shapes according to the earlier listed requirements.
- Cut out the shapes that represent the buildings. Place the shapes in the appropriate places, according to your design, on the chart paper.
- Name your buildings.
- According to your design, accurately draw the parks on your model. Use construction paper to cut out the shapes that represent the various features in each park. Place features inside the parks and label. Remember to include at least one line of symmetry in the one park.

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For final presentation, each design needs a concise summary and description of the town design.

Task 4:

Summarize the particular features of your town in table format, and write a description of the town.

- Create a 3 column chart with headings:

Feature's Name	Feature's Shape	Feature's Measure of each Angle
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- List the names of the buildings, parks, park features, and intersections.
- List the names of the shape of each item. (*for the intersections list perpendicular or not perpendicular*)
- List, in degrees, the measure of each angle on every building, park, park feature, and intersection.
- In a well developed paragraph, describe your town using your knowledge of geometric terms, including lines, angles, and shapes. Use the specifications from **Task 1** to help you explain your town.

Task 1

Checklist (use is optional)

- 4 streets parallel to each other
- 1 road that is a perpendicular to the 4 parallel streets
- 1 avenue that intersects at least 2 streets but is not perpendicular to them
- 8 buildings that are the shape of any polygons with the following features:
 - 2 different shaped buildings with at least one right angle and at least one set of parallel sides (RED)
 - 2 different shaped buildings with no parallel or perpendicular sides (BLUE)
 - 2 different shaped buildings with at least one obtuse angle (GREEN)
 - 2 different shaped buildings that are right triangles (YELLOW)
- 1 park shaped like a right triangle with the following features:
 - A swimming pool in the shape of a figure that has only acute angles
 - A right triangular sandbox
 - A triangular garden with an obtuse angle

Task 2

Checklist (use is optional)

- Town name
- All features are labeled
- 1 symmetrical shaped park with 4 different geometric figures to represent playground equipment. Label equipment.
- Parks, streets, road, and avenue have names

Task 3

Checklist (use is optional)

- Strips are placed correctly on paper to represent streets, avenue, and road:
 - 4 streets parallel to each other
 - 1 road that is a perpendicular to the 4 parallel streets
 - 1 avenue that intersects at least 2 streets but is not perpendicular to them
- Streets, avenue and road are labeled
- 8 different shapes (2 of each color) from the colored construction paper representing the buildings
- Buildings are labeled
- Parks are accurately drawn on paper
- Features of the parks are cut out and displayed
- Parks are labeled
- Park features are labeled with a line of symmetry

Student name: _____

Task 4 Scoring Guide

Meeting

- Model includes at least all required features (8 buildings, 2 parks, 7 park features, at least 6 intersections)
- Accurately constructs a table with appropriate headings
- Accurately completes column 1 of the table
- Accurately completes column 2 of the table (uses appropriate geometry terminology)
- Accurately completes column 3 of the table (measures angles accurately)
- Writes a well developed paragraph describing the town plan that includes:
 - Geometric terms
 - Descriptions of shapes
 - Descriptions of angles
 - Descriptions of lines

Developing

Meets 7 out of 9 proficient criteria

Beginning

Meets fewer than 7 of the proficient criteria

Task to be repeated after re-teaching

Comments: