

City Map Project

The goal: To demonstrate your understanding of geometric vocabulary and other topics we learned this semester, you will be working in groups of no more than 3 people to design and draw a city map that incorporates many geometric key terms.

The rough draft and calculations are due _____. The rough draft will be drawn on the attached map template. It should NOT have any color, but it should have all of the geometric terms drawn and labeled on the map and the legend.

The final draft is due _____. Do not start work on your final draft until the rough draft has been returned. The final draft should be no smaller than 8 ½ by 11, and no larger than a poster board. It MAY NOT be drawn over the rough draft. If you need a new copy of the map template that's in this packet, please ask your teacher.

Grading Guidelines:

1. Content (26 points)

- All 26 items are included on your map, and they are numbered clearly.
- Position of items demonstrates understanding of the vocabulary terms.
- All 26 items should be named on your legend.
- All content must be school appropriate.

2. Creativity (20 points)

Ways to be creative:

- Names of the city, buildings, streets, etc.
- Design elements (ex. how you design the map, or a path, or a park).
- Materials (computer-generated images, stickers, etc. are encouraged).
- Use of color – Your map should be colorful!

3. Neatness (20 points)

- Use tools, rulers, stencils, or protractors to make neat lines and angles.
- Write neatly and legibly. Use pen for the final.
- Correct mistakes so they are hardly noticeable.
- Color well (uniform use of colored pencils looks best; markers should be for titles and outlining only).

3. Calculations (34 points)

- Complete all problems with all appropriate work shown.
- All answers should be correct.

Your city must include:

- A title at the top (the name of your city)
- You must have the NUMBERS from the Legend labeled on your MAP.
- You must have the NAMES of the items on your LEGEND.

- 1a –b. Two streets (lines) that are **parallel** to each other.
2. A **diagonal** street (line) that is a **transversal to the parallel** streets.
3. Add two coffee shops that are located in **corresponding angles**.
4. Draw two gas stations that are located in **alternate interior angles**.
5. Add two grocery stores located in **alternate exterior angles**.
- 6a – b. Two streets (lines) that are **perpendicular** to each other.
7. An avenue that is a **ray**.
8. A road that is a **line segment**.
- 9 a-b. Draw two roads (**line segments**) that are **congruent** to each other. They do not need to be connected or parallel.
10. Draw a round-about at the **midpoint** of Item #8.
11. Draw a path or bridge that connects **two complementary angles**.
12. Draw a path or bridge that connects **two supplementary angles**.
13. Draw two parks (**colored green**) at **vertical angles** to each other.
14. Draw a hospital in the shape of a **parallelogram** and put it in the interior of an **obtuse angle**.
15. Draw a school in the shape of a **trapezoid** that is at an **obtuse angle**.
16. Draw a post office in the shape of a **rhombus** located at an **acute angle**.
17. Draw a courthouse in the shape of a **pentagon** located at a **right angle**.
- 18 a-b-c. Draw three swimming pools, each colored blue: **1 scalene, 1 isosceles, and 1 equilateral triangle**.
19. Draw a **hexagonal** building (or neighborhood)
20. Draw an **octagonal** building (or neighborhood)
21. Draw a **decagonal** building (or neighborhood)

Remember – you can include more streets and buildings than those listed above.

Legend (Write the name of each item)

- 1a. _____
- 1b. _____
2. _____
3. _____
4. _____
5. _____
- 6a. _____
- 6b. _____
7. _____
8. _____
- 9a. _____
- 9b. _____
10. _____
11. _____
12. _____
13. _____
14. _____
15. _____
16. _____
17. _____
- 18a. _____
- 18b. _____
- 18c. _____
19. _____
20. _____
21. _____

THIS PAGE WILL BE TURNED IN WITH YOUR ROUGH DRAFT AND FINAL DRAFT

Names _____

Content (26 points)

26

- ✓ All 26 items are included and numbered on your map.
- ✓ Items are placed properly.
- ✓ All 26 items are named on your legend.
- ✓ All content is school appropriate.

Creativity (20 points)

20

- ✓ Names of the city, buildings, streets, etc.
- ✓ Map Design (how items are placed on the map)
- ✓ Materials
- ✓ Use of color – Your map should be colorful!

Neatness (20 points)

20

- ✓ Tools, rulers, stencils, or protractors were used. Lines are straight. Polygons are neat.
- ✓ Writing is very neat and legible.
- ✓ Mistakes are hardly noticeable.
- ✓ Color looks great. Writing is in pen.

Calculations (34 points)

34

- ✓ All problems completed.
- ✓ All answers correct.
- ✓ Work shown for each problem (where appropriate).

Grand Total:

100

Legend (Write the name of each item)

- 1a. _____
- 1b. _____
- 2. _____
- 3. _____
- 4. _____
- 5. _____
- 6a. _____
- 6b. _____
- 7. _____
- 8. _____
- 9a. _____
- 9b. _____
- 10. _____
- 11. _____
- 12. _____
- 13. _____
- 14. _____
- 15. _____
- 16. _____
- 17. _____
- 18a. _____
- 18b. _____
- 18c. _____
- 19. _____
- 20. _____
- 21. _____

THIS PAGE WILL BE TURNED IN WITH YOUR ROUGH DRAFT

Names _____

Calculations (include clearly labeled work on a separate sheet)

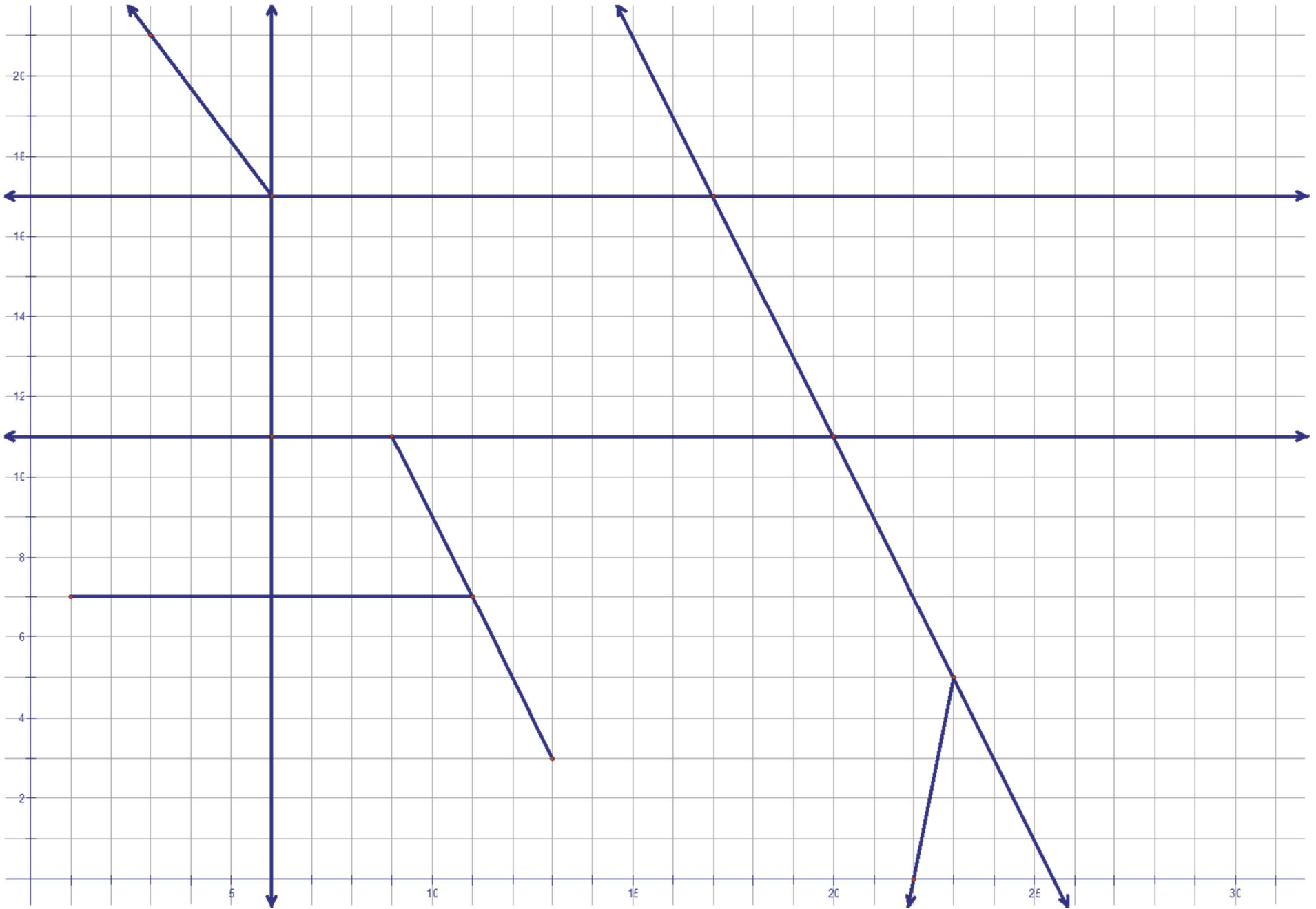
1. If one of the coffee shops (Item #3) has a measure of 63° , find the measure of the other coffee shop.
2. If one of the grocery stores (Item #5) has a measure of 117° , find the measure of the other grocery store.
3. If one of the parks (Item #13) has a measure of 48° , find the measure of the other park.
4. Find the coordinates for the endpoints of the road (Item #8).
5. Find the length of the road (Item #8).
6. Find the coordinates of the round-about (Item #10).
7. Find the coordinates for two points on the diagonal street (Item #2).
8. Find the slope of the diagonal street (Item #2).
9. Find the equation for the diagonal street (Item #2).
10. If a new street were constructed to be perpendicular to the diagonal street (Item #2), find the slope of the new street. (This street doesn't need to be on the map.)
11. Find the area of the hospital (Item #14).
12. Find the area of the school (Item #15).
13. Find the area of the post office (Item #16).
14. Find the sum of the interior angles of the pentagon (Item #17).
15. Find the sum of the interior angles of the hexagon (Item #19).
16. Find the sum of the interior angles of the octagon (Item #20).
17. Find the sum of the interior angles of the decagon (Item #21).

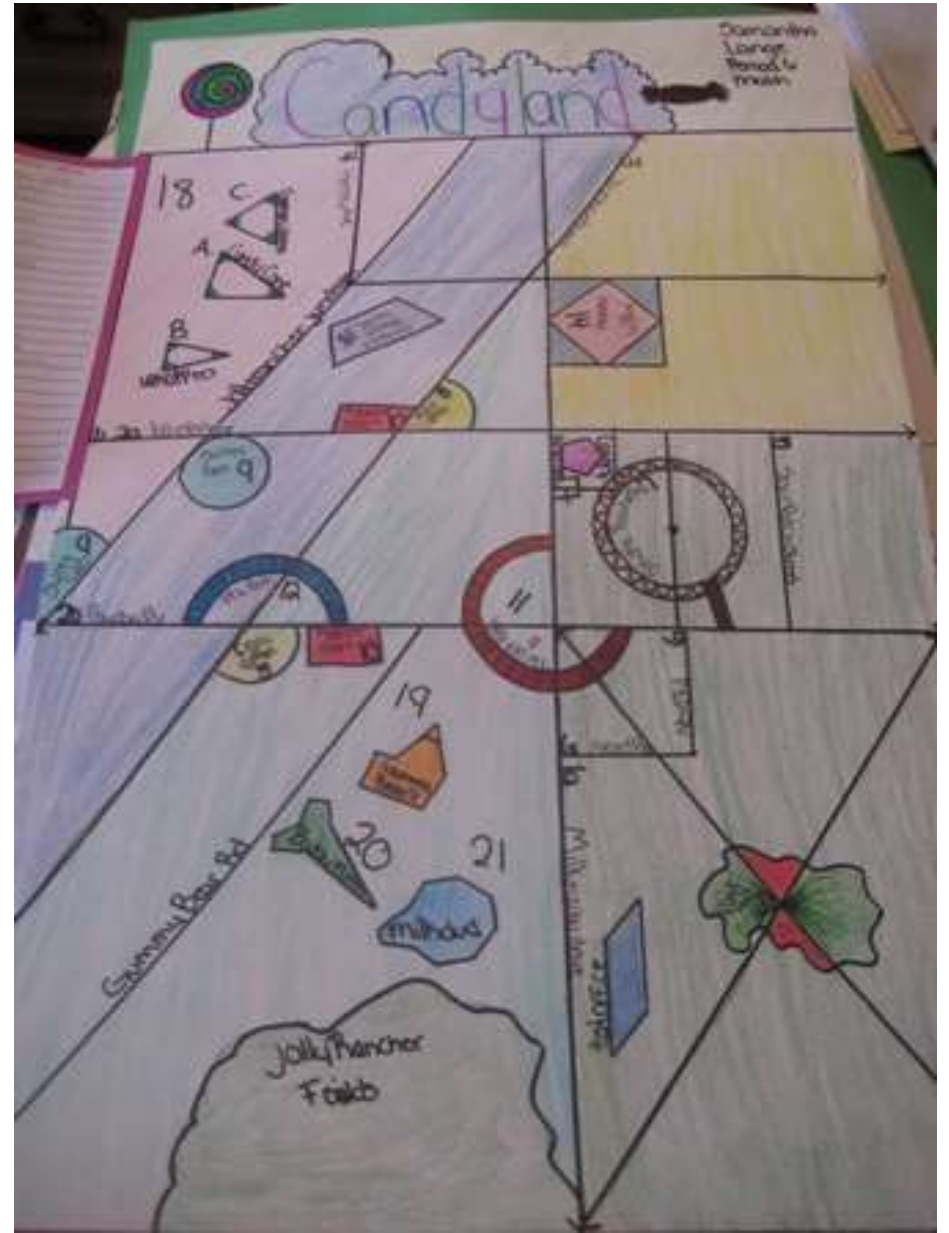
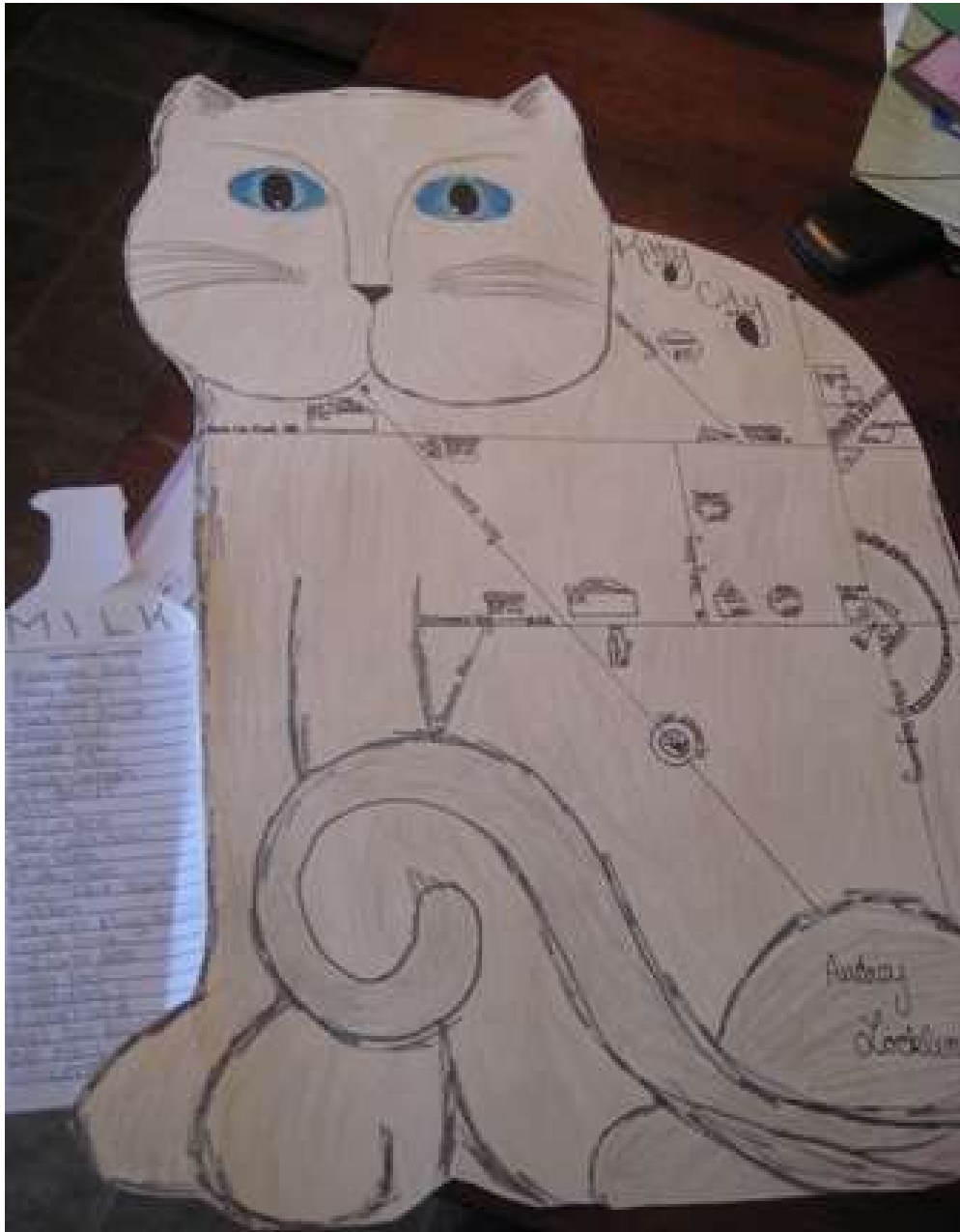
Answers

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____
11. _____
12. _____
13. _____
14. _____
15. _____
16. _____
17. _____

THIS PAGE WILL BE TURNED IN WITH YOUR ROUGH DRAFT

Names _____







- Legend
1. Grand Hope St.
 2. Lake Hope St.
 3. Lake St.
 4. Hope St.
 5. Hope St.
 6. Hope St.
 7. Hope St.
 8. Hope St.
 9. Hope St.
 10. Hope St.
 11. Hope St.
 12. Hope St.
 13. Hope St.
 14. Hope St.
 15. Hope St.
 16. Hope St.
 17. Hope St.
 18. Hope St.
 19. Hope St.
 20. Hope St.



- Legend
1. Spooky Ville
 2. Spooky Ville
 3. Spooky Ville
 4. Spooky Ville
 5. Spooky Ville
 6. Spooky Ville
 7. Spooky Ville
 8. Spooky Ville
 9. Spooky Ville
 10. Spooky Ville
 11. Spooky Ville
 12. Spooky Ville
 13. Spooky Ville
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 17. Spooky Ville
 18. Spooky Ville
 19. Spooky Ville
 20. Spooky Ville

Spooky Ville