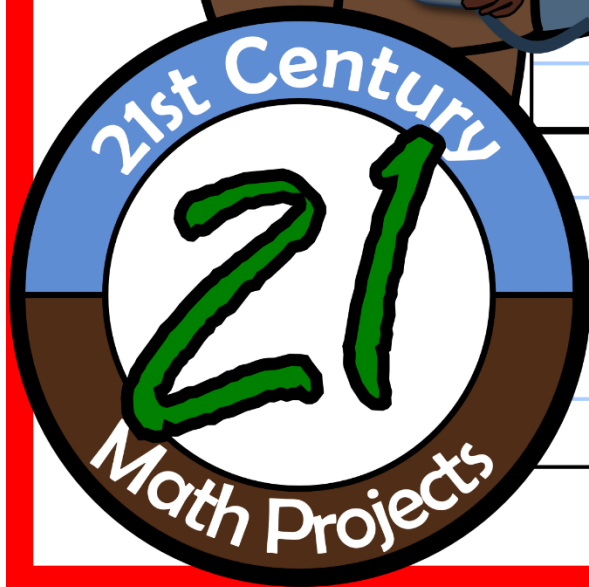




# Ghostbusters



**Project Title: Ghostbusters**



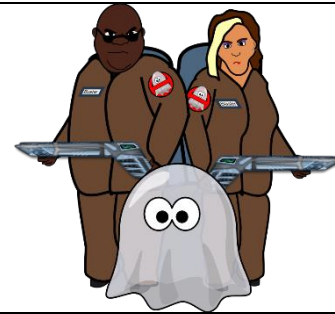
**Standard Focus:** Geometry and Spatial Sense

**Time Range:** 2-4 Days

**Supplies:** Basic Stuff

**Topics of Focus:**

- Plotting Coordinates on an X-Y Plane
- Plotting Coordinates that include fractions.



**Benchmarks:**

The Number System	6.NS	6c. Find and position integers and other rational numbers on a horizontal or vertical number line diagram; find and position pairs of integers and other rational numbers on a coordinate plane.
The Number System	6.NS	8. Solve real-world and mathematical problems by graphing points in all four quadrants of the coordinate plane. Include use of coordinates and absolute value to find distances between points with the same first coordinate or the same second coordinate.
Geometry	6.G	3. Draw polygons in the coordinate plane given coordinates for the vertices; use coordinates to find the length of a side joining points with the same first coordinate or the same second coordinate. Apply these techniques in the context of solving real-world and mathematical problems.

**Procedures:**

- A.) Students will complete “Who Ya Gonna Call?” to practice naming ordered pairs and plotting ordered pairs on a coordinate grid. Students must find the locations of the ghosts on the map.
- B.) Students will complete “Sketch the Slimer” to practice graphing a number of ordered pairs. In this assignment, students must graph sections of a picture to determine what the mystery ghost looks like.
- C.) Optional\* Students will complete “Make Your Own Ghost” to draw their own ghosts out of ordered pairs. Students will create their own ghost and provide a list of ordered pairs that will make up the shape. Students could trade their ghost with someone else’s for fun.
- D.) “Ghostbusters: Disaster Day” is designed to have students work together to find the locations of ghosts that have popped up all throughout the city. I have included 4 different locations. You can have students work in groups to solve all four of them, you can give all four as a packet or you can cut it down by not using certain locations.



# Who Ya Gonna Call?

An underground slime river has created many ghostly spirits. The ghosts cause a lot of problems and they must be captured before it is too late. A dispatcher has been recording the locations of the ghost sightings. Can you determine the coordinates of each location?

Phase 1: Write the ordered pair of each of the labeled ghosts on the graph.

	Ordered Pairs A: B: C: D: E: F: G: H: I: J: K: L: M: N: O: P:
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Name \_\_\_\_\_ Date \_\_\_\_\_ Period \_\_\_\_\_

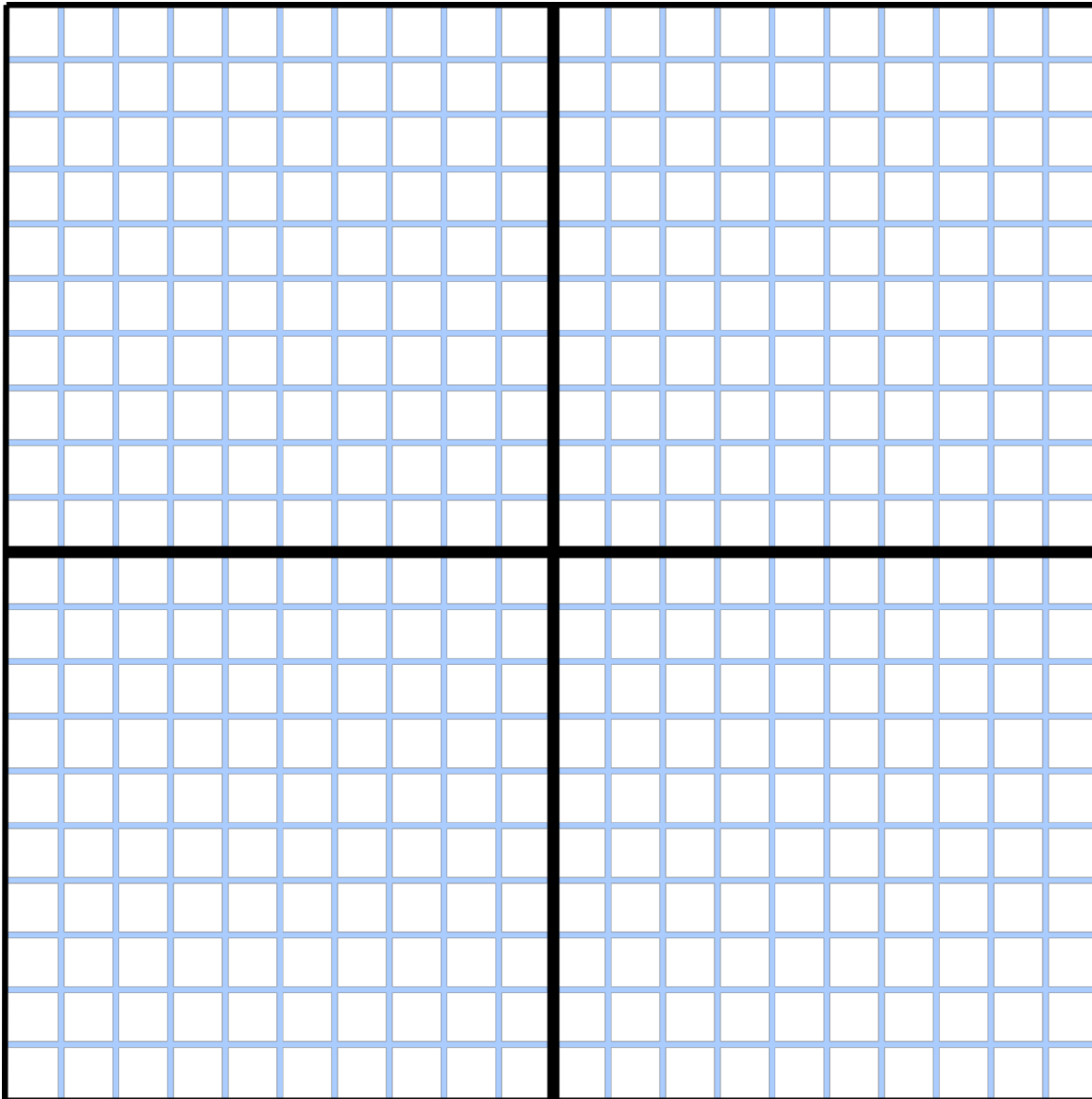
If each square represents 1 square mile, can you find the distance between...

- 1.) Ghost A and Ghost B?
- 2.) Ghost D and Ghost E?
- 3.) Ghost J and Ghost K?
- 4.) Ghost G and Ghost M?
- 5.) Ghost A and Ghost N?
- 6.) Ghost E and Ghost O?

Phase 2: Now that all of the reported ghosts have been captured, it seems all of the work is done. That is until... dun dun dun... the ghost heat sensor is turned on. The heat sensor discovered the coordinates of another 20 ghosts!



Use the ordered pairs to plot the locations of the ghosts on the coordinate grid.



Ordered Pairs
A: (-8, 5)
B: (-4, -2)
C: (4, -7)
D: (-8, -8)
E: (8, 1)
F: (10, -2)
G: (0, 8)
H: (-3, 2)
I: (-2, -9)
J: (-6, 1)
K: (0, -4)
L: (-8, 10)
M: (2, 6)
N: (7, 8)
O: (6, 0)
P: (9, -8)
Q: (2, -2)
R: (-1, 7)
S: (-6, -4)
T: (-9, 0)

If each square represents 1 square mile, can you find the distance between...

- 1.) Ghost A and Ghost L?
- 2.) Ghost B and Ghost F?
- 3.) Ghost D and Ghost P?
- 4.) Ghost G and Ghost K?
- 5.) Ghost M and Ghost Q?
- Bonus) Ghost S and Ghost T?

# Sketch the Slimer



Your ghost heat sensor is picking up a disturbance in your home. Oh my! After calling a local ghost catcher, she asks you for a description of what they look like. Use the ordered pairs from your heat sensor to make a sketch of the ghost so you can describe it.

The sketch is composed of different sections. Below is a list of coordinates for each section. Construct one section at a time. Plot one ordered pair at a time and connect the first ordered pair to the one that follows it with a straight line. This process will result in the Slimer.

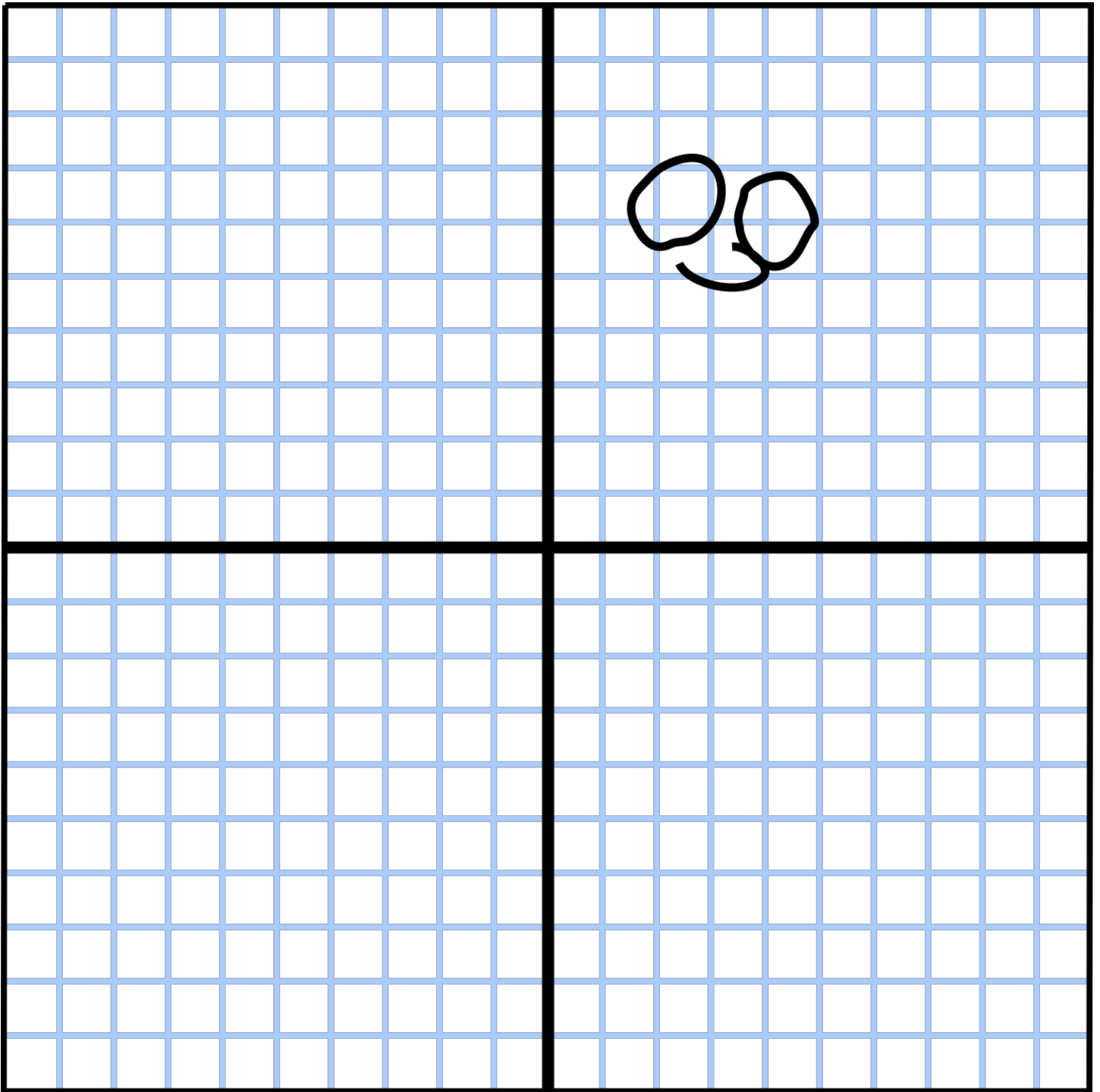
Name \_\_\_\_\_

Date \_\_\_\_\_

Period \_\_\_\_\_

Section 1:	(2, 3), (2, 4), (3, 4), (3, 3)
Section 2:	(4, 3), (4, 4), (5, 4), (5, 3)
Section 3:	(0, 5), (2, 4), (5, 4), (6, 5), (5, 2), (5, 1), (5.5, -1), (4, -1.5), (2, -1.5), (1, -1), (-1, 0), (-1, 2), (0, 5)
Section 4:	(-1, 0), (1, 1), (2, 2), (3, 1.5), (4, 2), (4.5, 1), (4, 0), (4, -2)
Section 5:	(5, 8), (6, 7), (6, 6), (7, 5), (7, 4), (6, 3), (6.5, 0), (6, -2), (7, -3), (7.5, -2), (8, -2), (8, -3), (10, -2.5), (10, -3), (8, -4), (7, -5), (6.5, -5), (7, -4), (6, -3), (5, -5), (2, -8), (-1, -8), (-5, -6), (-7, -4), (-7, -2)
Section 6:	(5, 8), (4, 9), (2, 9), (0.5, 8), (0, 7), (-1, 6.5), (-1.5, 6), (-2, 4), (-3, 3), (-3, 2), (-5, 1), (-7, 0), (-6, 2), (-6.5, 2.5), (-7, 2), (-8, 0), (-9, 1), (-10, 1), (-9, 0), (-8, -1), (-7, -2), (-6, -2.5), (-6, -2), (-7, -1), (-6, -1), (-5, 0), (-3, 1)
Section 7:	Thick Black Dots at (4, 6) and (2.5, 6.5).

Sketch the Slimer!  
(part of the face is already drawn for you!)



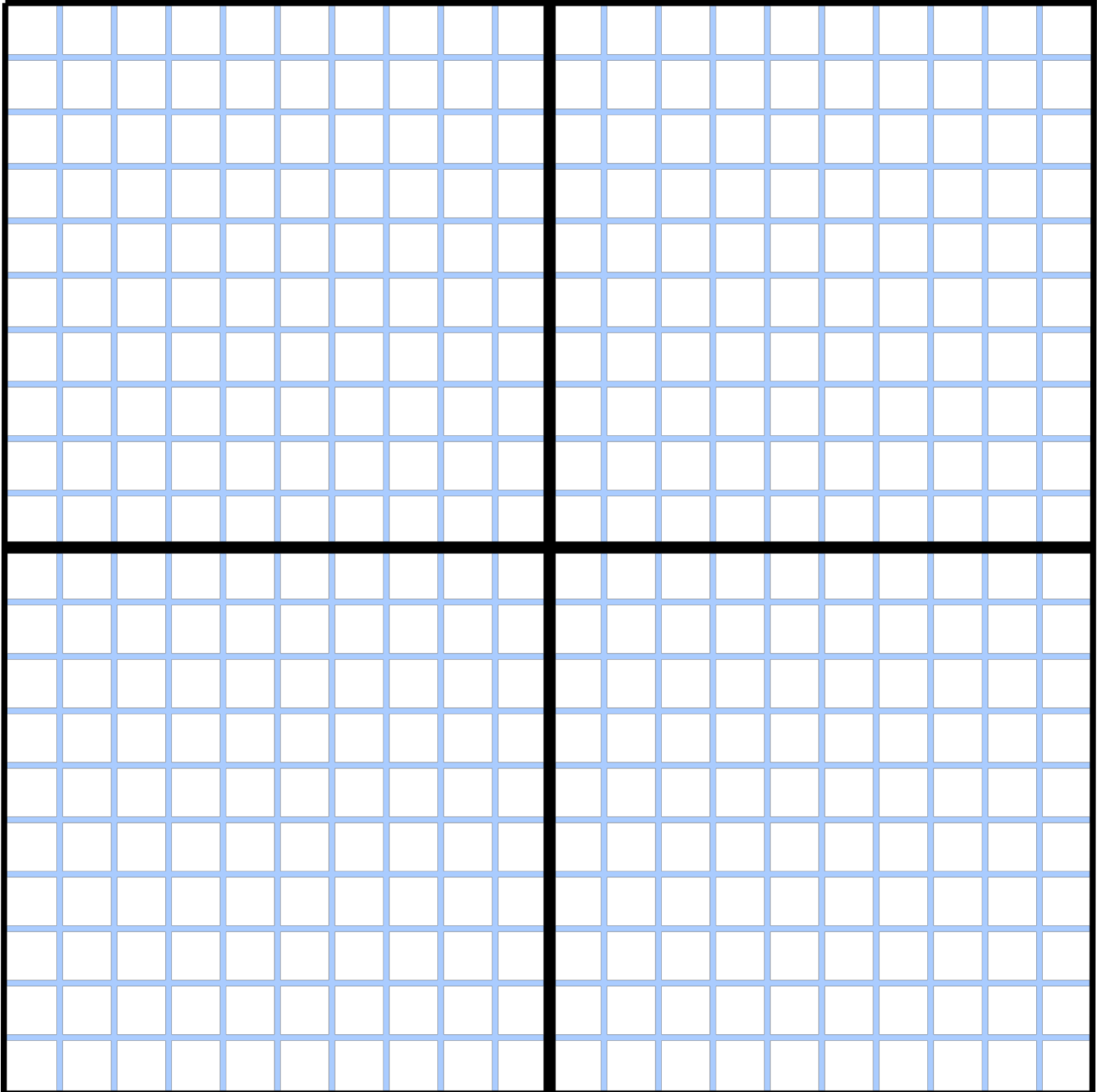
In two or three sentences, describe the features of the slimer.

A large, empty rounded rectangular box with a green border, intended for writing a description of the slimer's features.

# Make Your Own Ghost



Ghosts come in all shapes and sizes and now is your chance to bring your imagination to the coordinate plane. With only ordered pairs, construct a ghost on the coordinate plane below. On the next page, write a list of the ordered pairs that will be necessary to recreate your design!



Ordered Pair Sequence for your Ghost  
(use as many sections as necessary)

Section 1:	
Section 2:	
Section 3:	
Section 4:	
Section 5:	
Section 6:	
Section 7:	
Section 8:	
Section 9:	
Section 10:	

Name \_\_\_\_\_

Date \_\_\_\_\_

Period \_\_\_\_\_



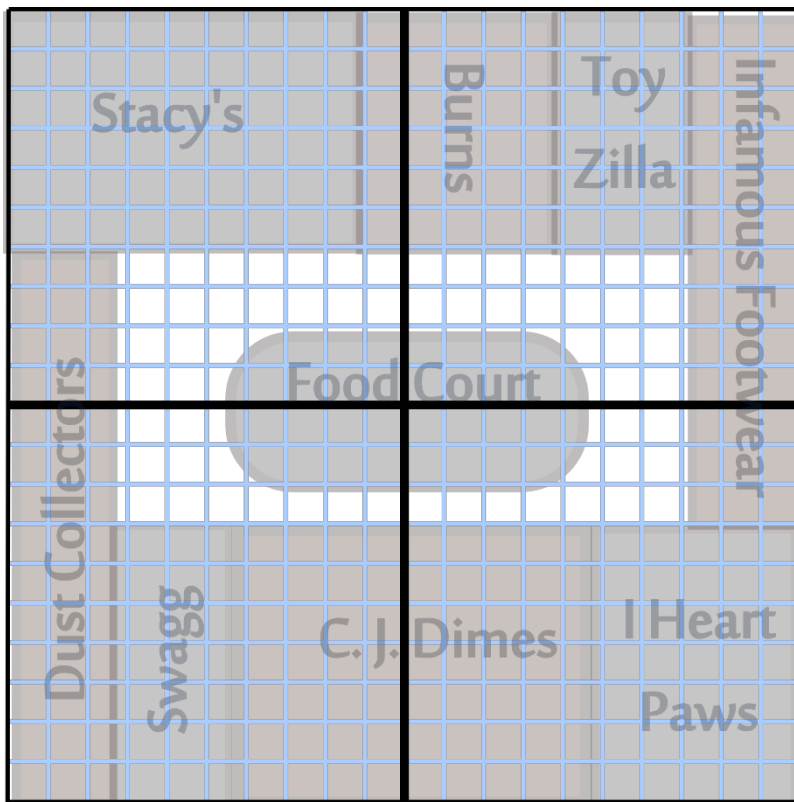


# Ghostbusters

## - Disaster Day -

There's something strange in your neighborhood. Ghosts have managed to escape the capture chamber and have wreaked havoc all over the region. On the case is an upstart ghost catching team, the Ghostbusters. Given the ordered pairs on the Ghostbusters radar, find which buildings are infested with ghosts.

### The Mall



	Ordered Pairs	Location
A	(3, 0)	
B	(6, 6)	
C	(-9, 3)	
D	(0, -4)	
E	(-2, 8)	
F	(9, -2)	
G	(-8, -5)	
H	(1, 7)	
I	(-7, -4)	
J	(3, -5)	

Name \_\_\_\_\_ Date \_\_\_\_\_ Period \_\_\_\_\_

### Follow-Ups

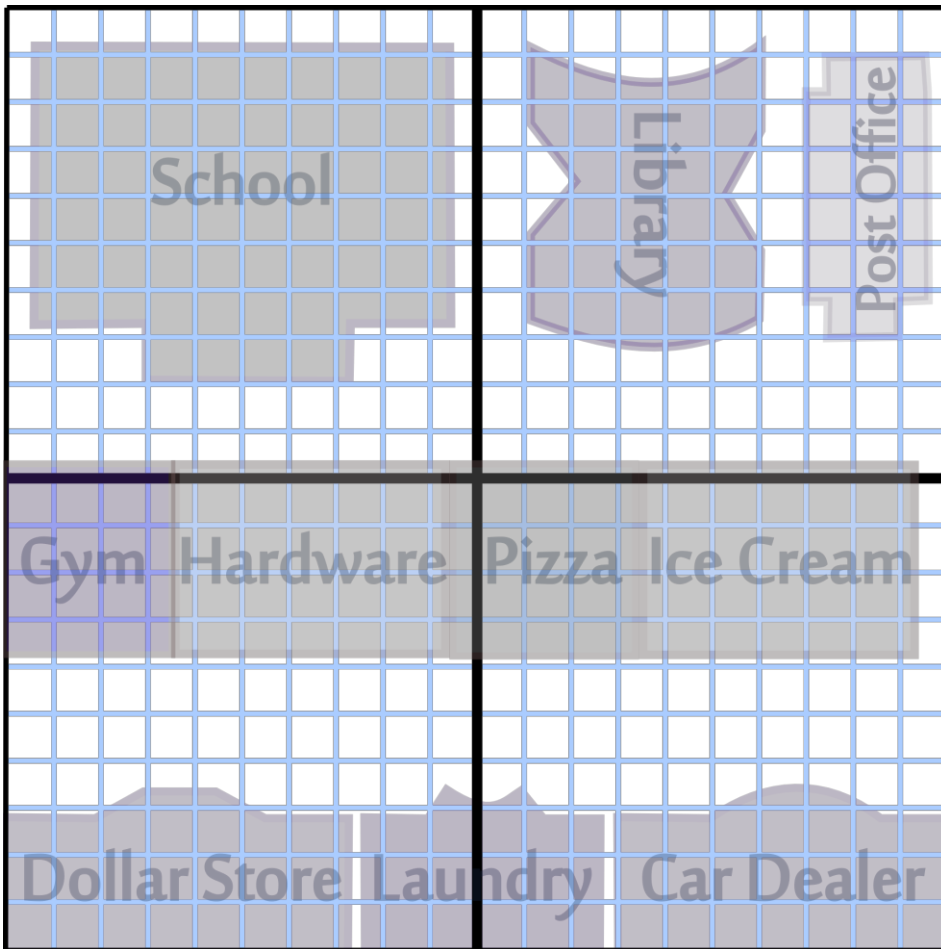
1. Based on your data, is there a ghost in every store?
2. Are there any stores that have more than one ghost?



# Small Town



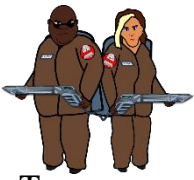
Ten ghosts have invaded a small town. For seven ghosts, precise coordinates have been locked in. For the final three, there are notes relative to other ghosts that have been located. Determine the ordered pair for these ghosts and their locations.



	Ordered Pairs	Location
A	(-8, -3)	
B	(4, 7)	
C	(5, -8)	
D	(-10, -8)	
E	(-5, 4)	
F	(9, 6)	
G	(-2, -2)	
	Radar Note	Ordered Pair / Location
H	4 units east of Ghost G	
I	7 units west of Ghost C	
J	9 units south of Ghost F	

## Follow-Ups

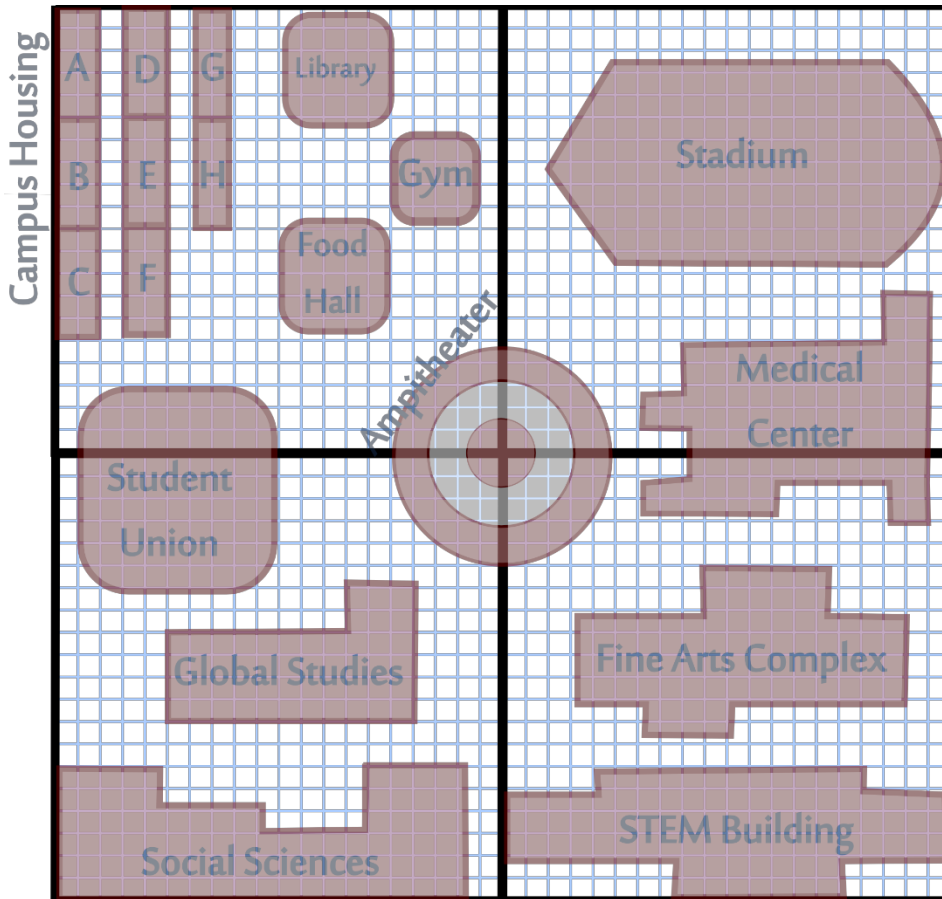
1. Based on your data, is there a ghost in every store?
2. Are there any stores that have more than one ghost?
3. Can you determine which two ghosts appear to be the closest to each other?



# College Campus



Ten more ghosts have shown up on different parts of a local college campus. For seven ghosts, precise coordinates have been locked in. For the final three, there are notes relative to other ghosts that have been located. Determine the ordered pair for these ghosts and their locations.



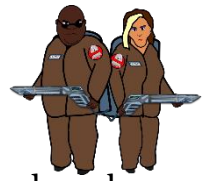
	Ordered Pairs	Location
A	(-16, 6)	
B	(4, 0)	
C	(-12, -3)	
D	(5, -17)	
E	(9, -2)	
F	(-8, 9)	
G	(-13, 19)	
	Radar Note	Ordered Pair / Location
H	8 units south of Ghost C	
I	5 units east of Ghost G	
J	5 units east and 16 units north of Ghost D	

## Follow-Ups

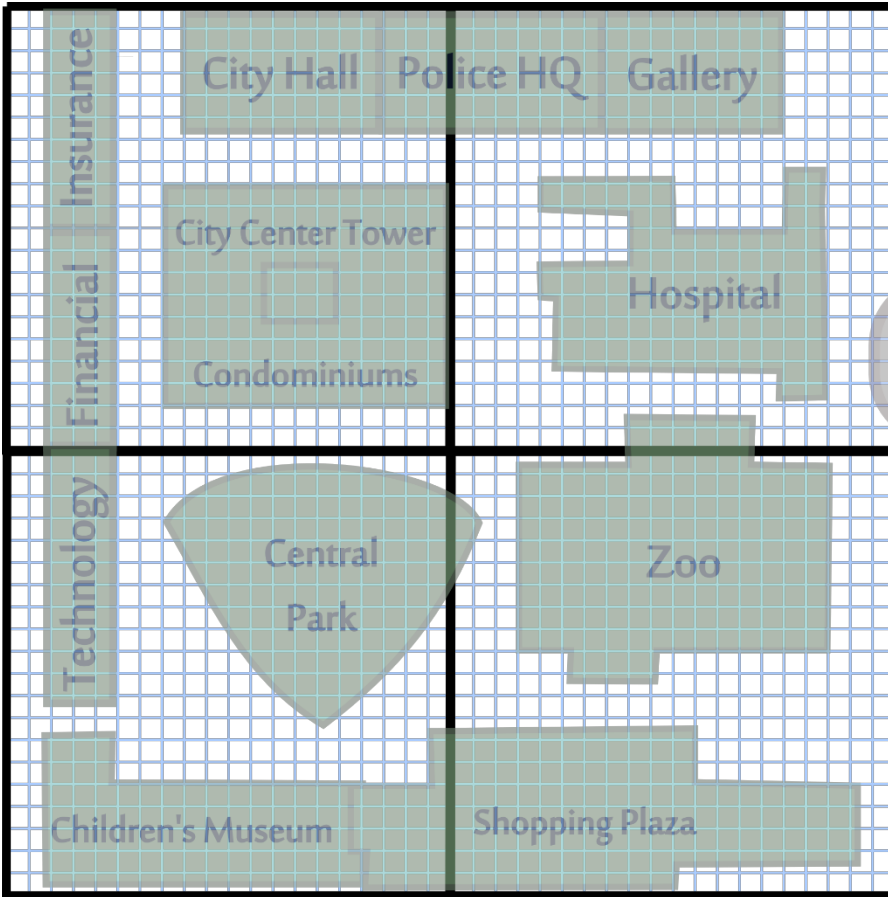
1. Based on your data, is there a ghost in every building?
2. Are there any buildings that have more than one ghost?
3. Can you determine which two ghosts appear to be the closest to each other?



# Downtown



The final ten ghosts are in different areas of downtown. For two ghosts, precise coordinates have been locked in. For the other eight, there are notes relative to other ghosts that have been located. Determine the ordered pair for these ghosts and their locations.



	Radar Note	Ordered Pair / Location
A	(5, 16)	
B	23 units west of Ghost A	
C	21 units south of Ghost B	
D	8 units east of Ghost C	
E	11 units south and 8 units east of Ghost D	
F	(9, -1)	
G	14 units south of Ghost F	
H	22 units north of Ghost G	
I	11 units west of Ghost H	
J	7 units east and 9 units south of Ghost I	

## Follow-Ups

1. Based on your data, is there a ghost in every area?
2. Are there any areas that have more than one ghost?
3. Do you notice a relationship between the shifting of the units in words and the ordered pairs? Do North and South moves affect the X or the Y coordinate? What about East and West?