True Grid

4th Grade

GEO CITY

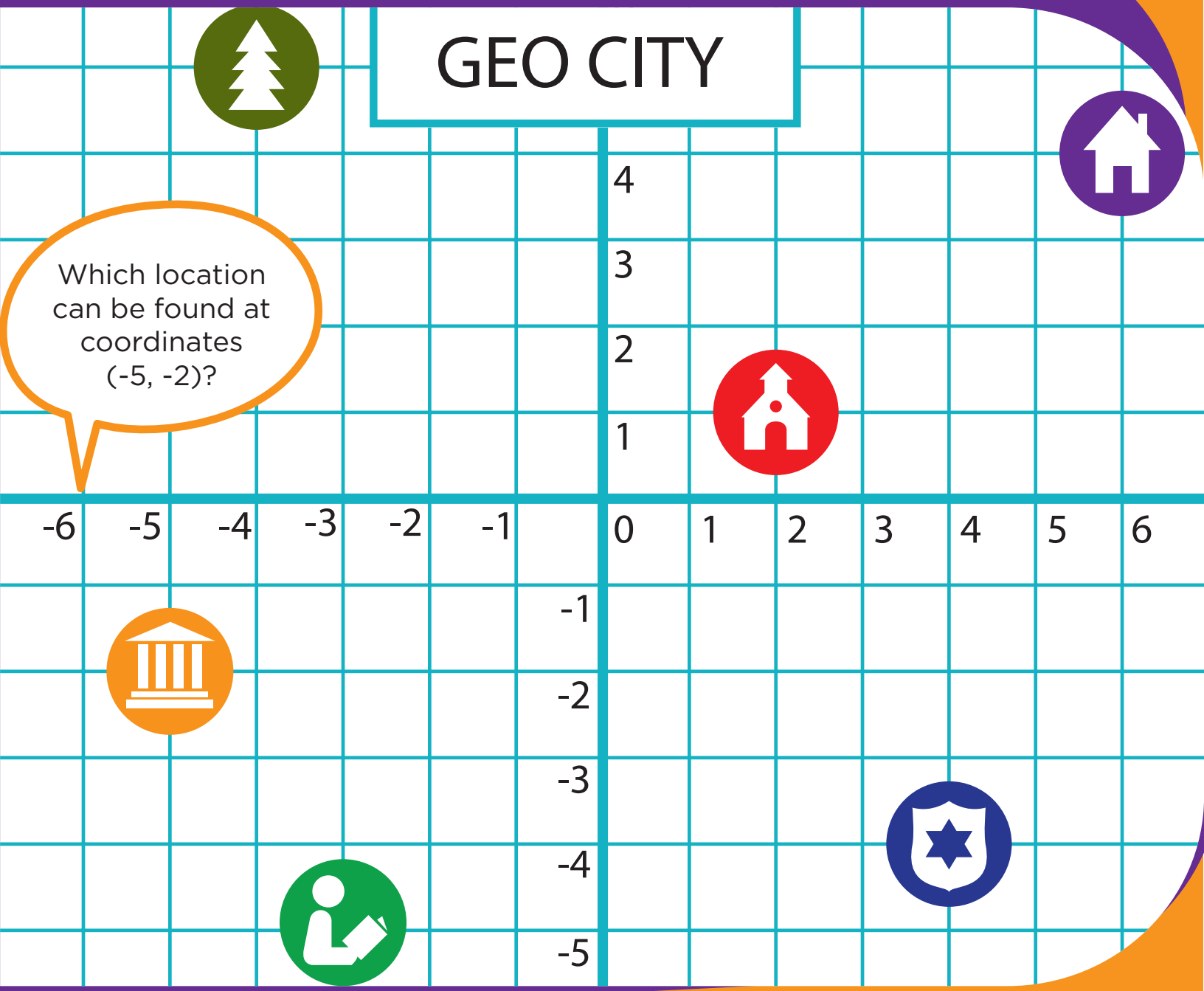

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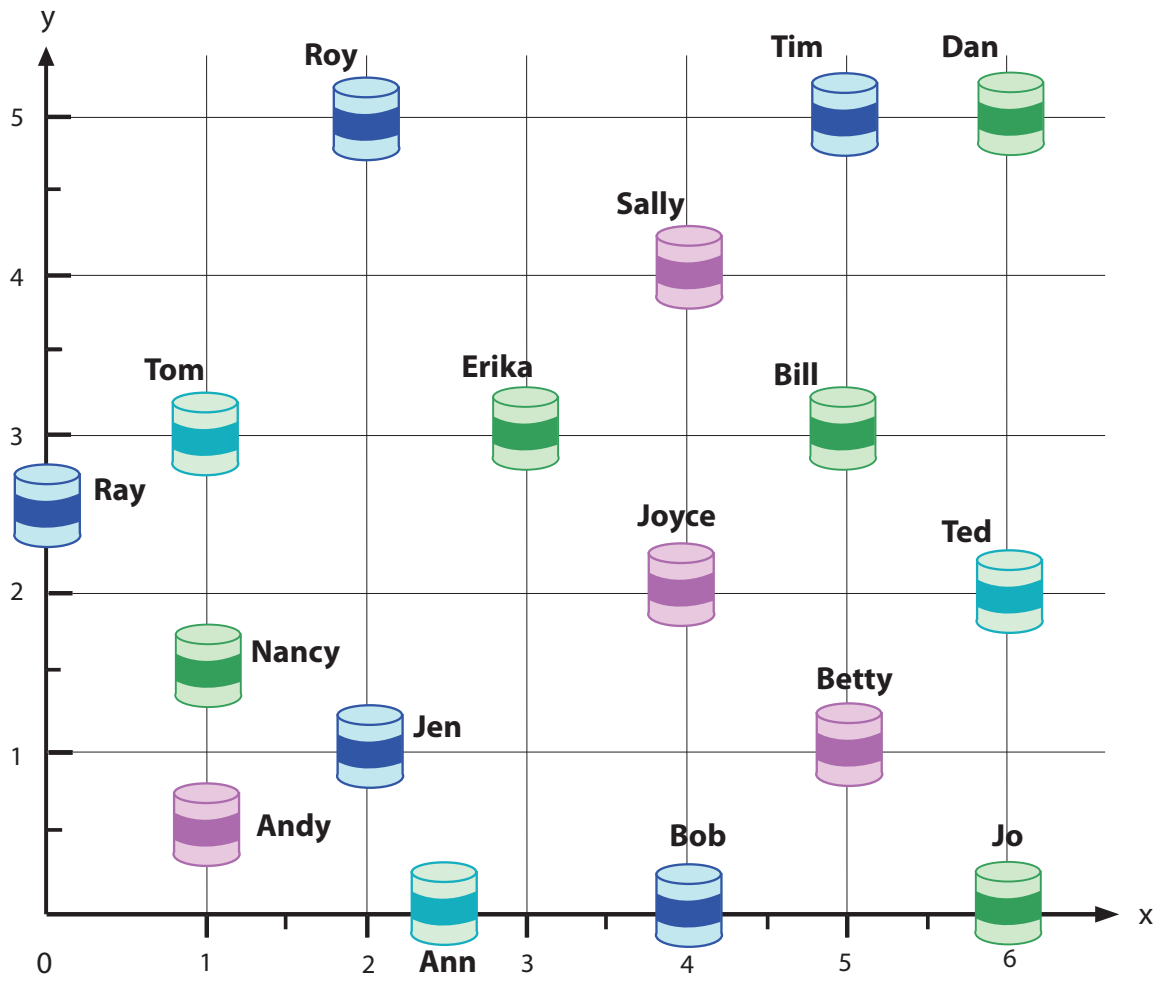
Table of Contents

True Grid

** Has an Answer Sheet*

Time Capsules: Practice Coordinates

Your friends need your help in writing code to show where they buried their time capsules, so later they will remember where they are.



Roy = _____ **Bill =** _____ **Jo =** _____ **Andy =** _____

Tom = _____ **Jen =** _____ **Ray =** _____ **Ray =** _____

Tim = _____ **Erika =** _____ **Joyce =** _____ **Betty =** _____

Dan = _____ **Ann =** _____ **Nancy =** _____

Ted = _____ **Bob =** _____ **Sally =** _____

Collision Coordinates

4TH GRADE
LINEAR MATH

Balloons and birds are on a collision course in the sky! When their paths cross, the balloons pop! Plot 10 points for each of the 4 linear equations using the T-charts given. Graph each line on the x-y coordinates and answer the questions on the right.

Red balloon
$y = 2x - 24$

x	y
12	0
13	2

Green balloon
$y = 3x - 75$

x	y
25	0
26	3

Orange bird
$y = {}^{x}/_{2} + 6$

x	y
0	6
2	7

Blue bird
$y = {}^{x}/_{4} + 13$

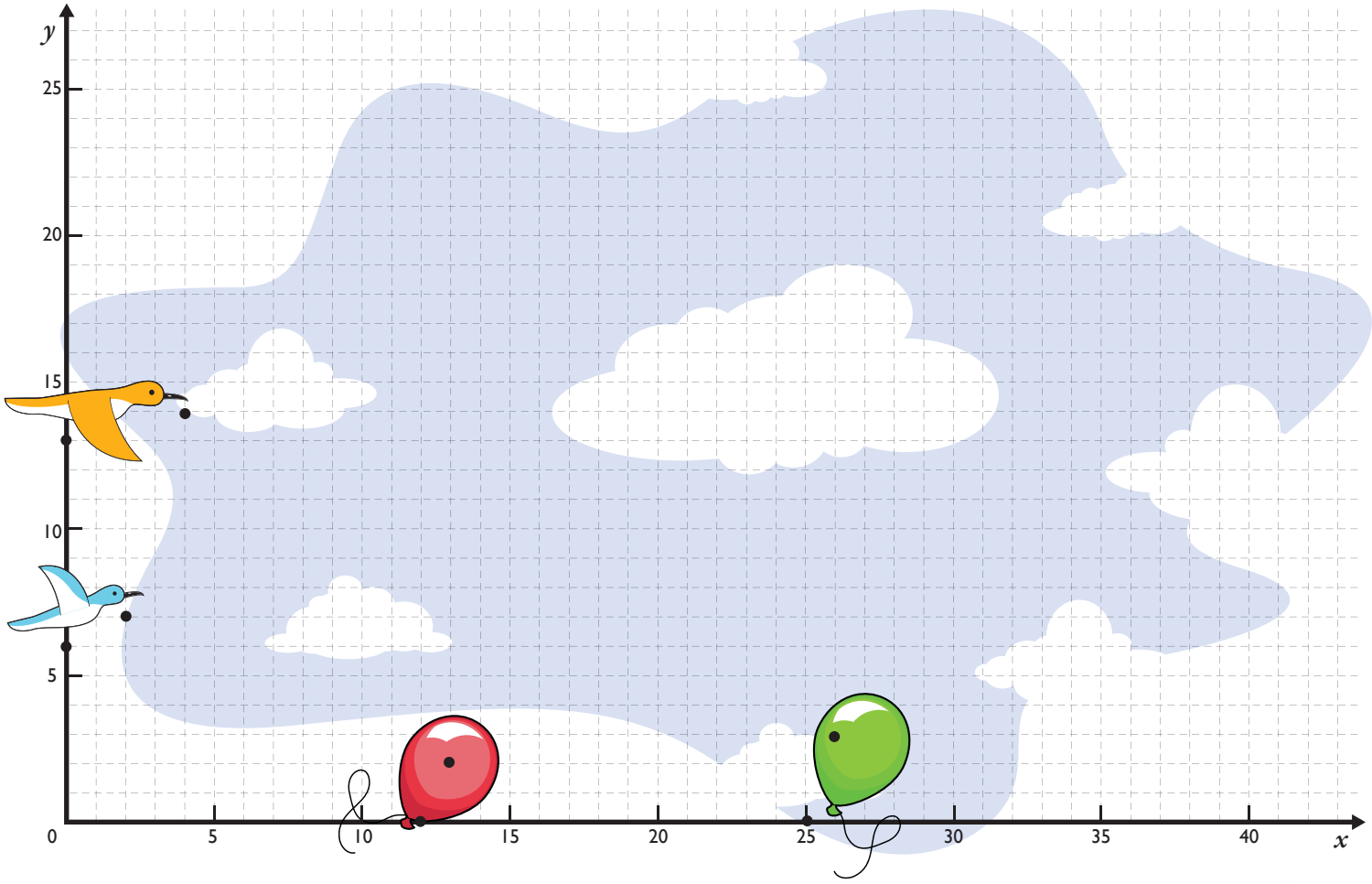
x	y
0	13
4	14

At what coordinate (x,y) does the orange bird pop the red balloon?

(___ , ___)

At what coordinate (x,y) does the blue bird pop the green balloon?

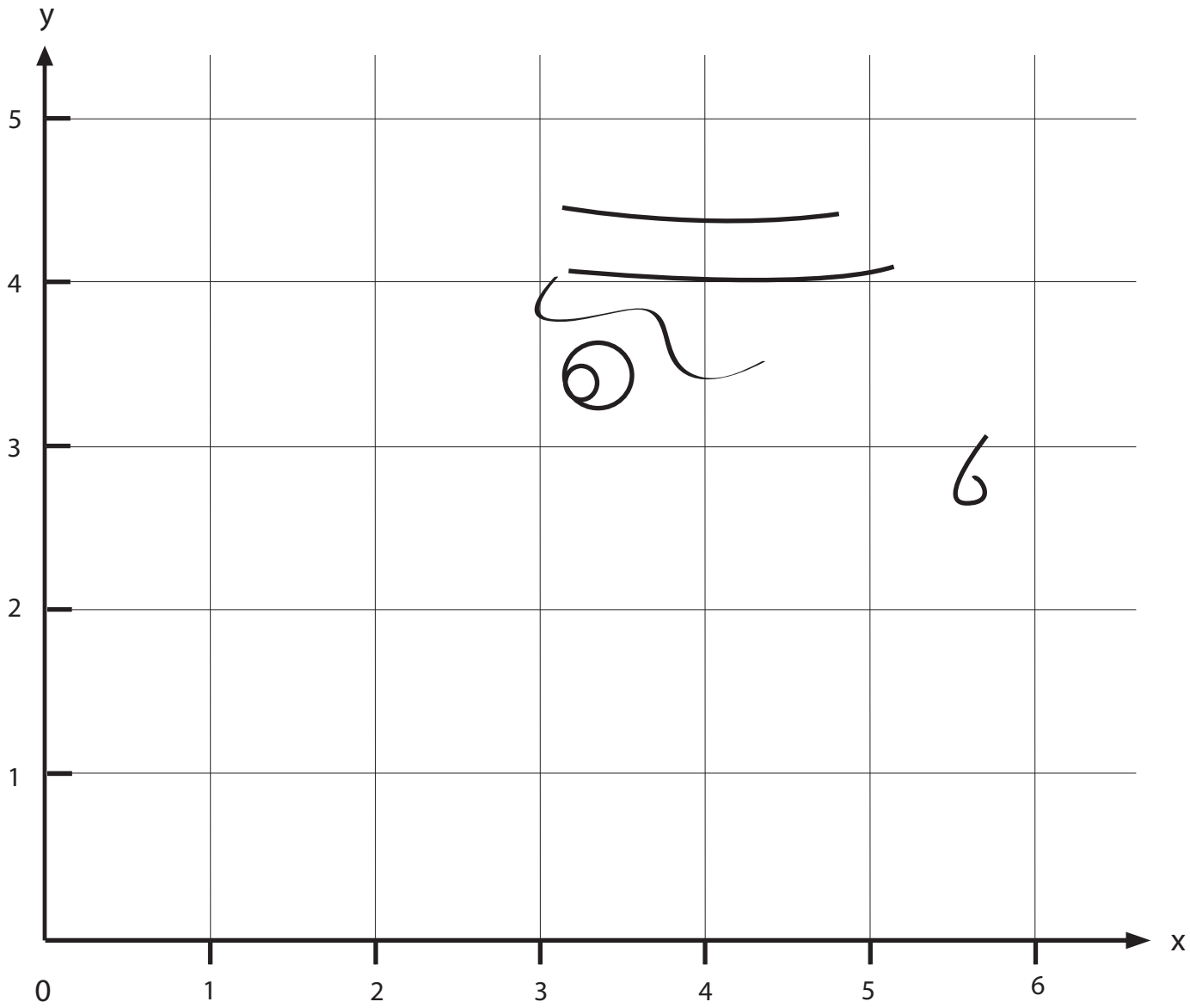
(___ , ___)



Plot a dot, Draw a line, What do you find?

Can you find the hiddden image? Plot the coordinates in order, draw a line between each one, and see what figure appears! Remember, the first number is on the X axis and the second number is on the Y axis.

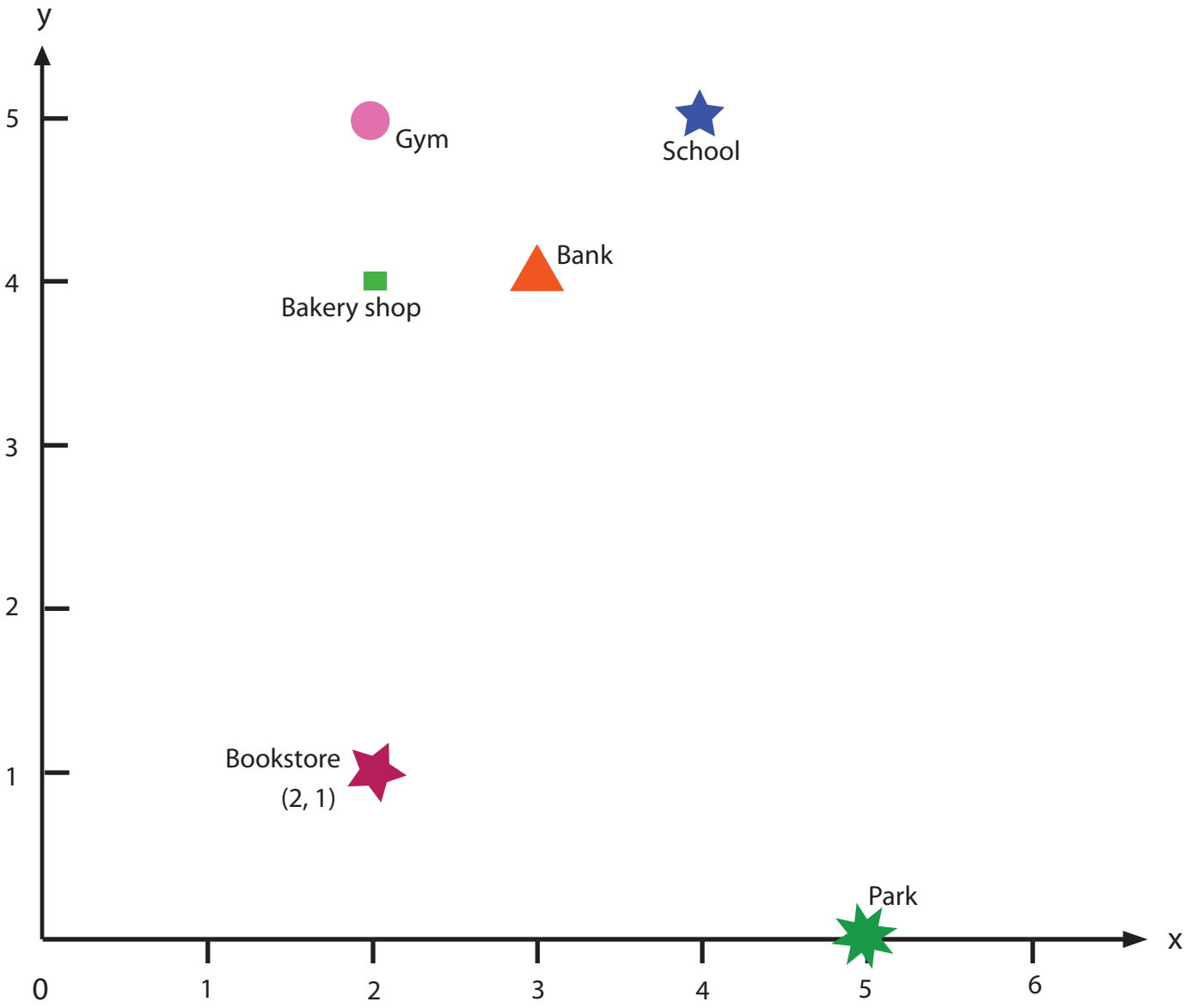
1. (3, 0)	9. (2, 4.5)	17. (6, 3.5)
2. (1, 1.5)	10. (3, 4.5)	18. (6, 2.5)
3. (3.5, 1.5)	11. (3, 5)	19. (5.5, 2.5)
4. (4,2)	12. (5,5)	20. (4.5, 0)
5. (2,2)	13. (5, 4.5)	
6. (2.5, 2.5)	14. (6, 4.5)	
7. (1.5, 2.5)	15. (5.5, 4)	
8. (3, 4)	16. (5.5, 3)	



Where are they?: Tell the position

Your friend is new in town. Tell her positions of a store, bank, and school using X and Y Coordination. Write the coordinates of each place next to the position (look at the example). Then, answer questions below.

Review: The first number refers to X coordinate. The second number refers to Y coordinate.



What is the x-coordinate of the school?

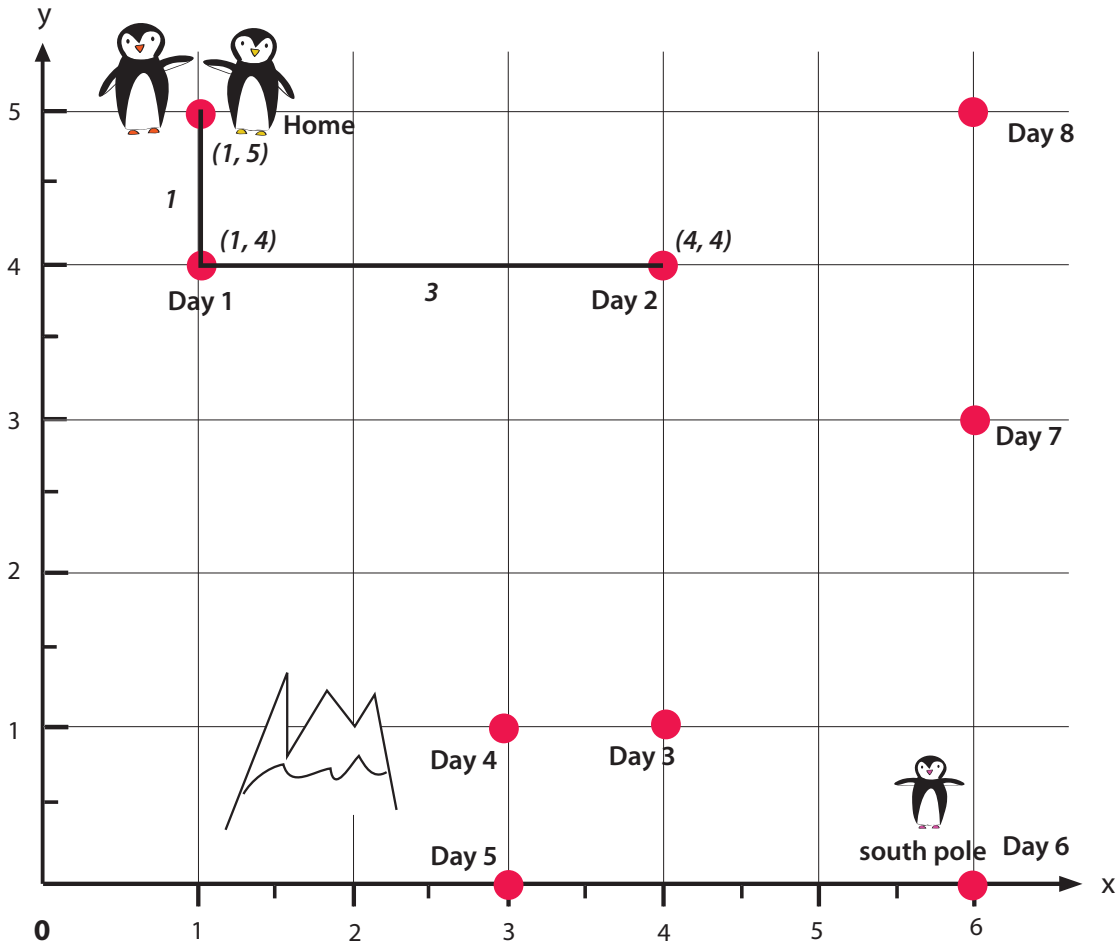
What is the y-coordinate of the park?

Mark on a grid a position of a train station which is (3, 2).

Mark on a grid a position of a community center which is (6, 3).

Traveling to the South Pole: Practice Coordinates and Perimeter

The penguin parents are traveling to the South Pole to pick up their baby, stopping at each point on the grid along the way. Then together, the three of them will go back home in a different route. See how far their route is by finding the distance between the coordinates (see examples below).
Review: The first number refers to X coordinate. The second number refers to Y coordinate.



Example:
Day 1: Distance between home (1, 5) to Day 1 stop (1, 4). Subtract difference of Y-value of each location. Y value of home = 5, Y value of Day 1 stop = 4.
Therefore, the distance is 5 - 4 = 1. Then draw a line from each point and write 1.

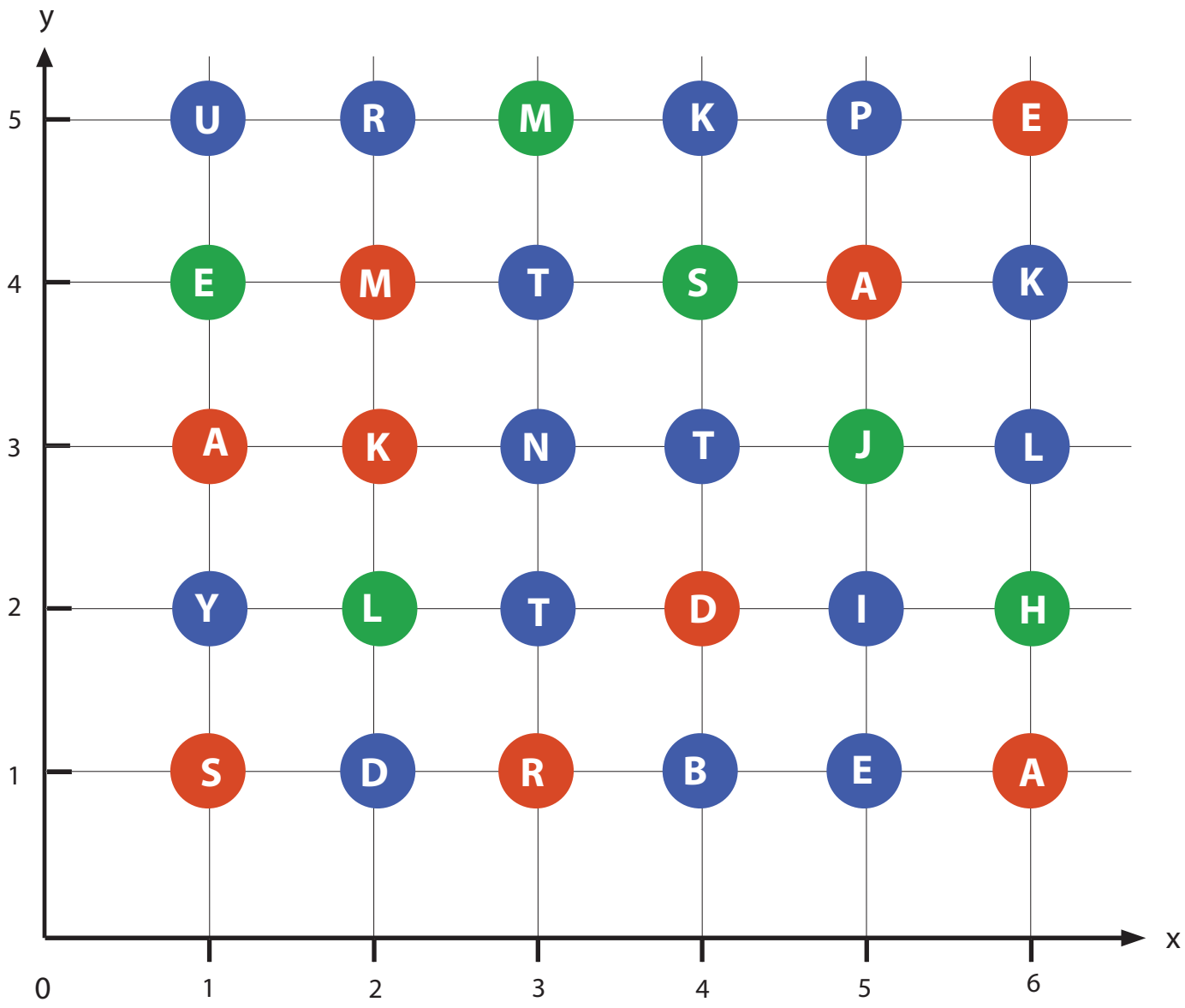
Day 2: Distance between Day 1 stop (1, 4) to Day 2 stop (4, 4). Subtract difference of X-value of each location. X value of Day 2 stop = 4, X value of Day 1 stop = 1.
Therefore, the distance is 4 - 1 = 3. Then draw a line from each point and write 3.

A Sea of Letters: Practice Coordinates

Navigate through the sea of letters to find out in what city your ship will land. Collect the letters according to the order of the coordinates and spell out the name of the destination.

Coordination list

1. (3, 4)
2. (1, 3)
3. (4, 5)
4. (6, 1)
5. (2, 4)
6. (5, 4)
7. (3, 2)
8. (1, 1)
9. (1, 5)



Destination: _____

answer: Takamatsu
It is a city in Japan

Working On The Farm: Practice Coordinates

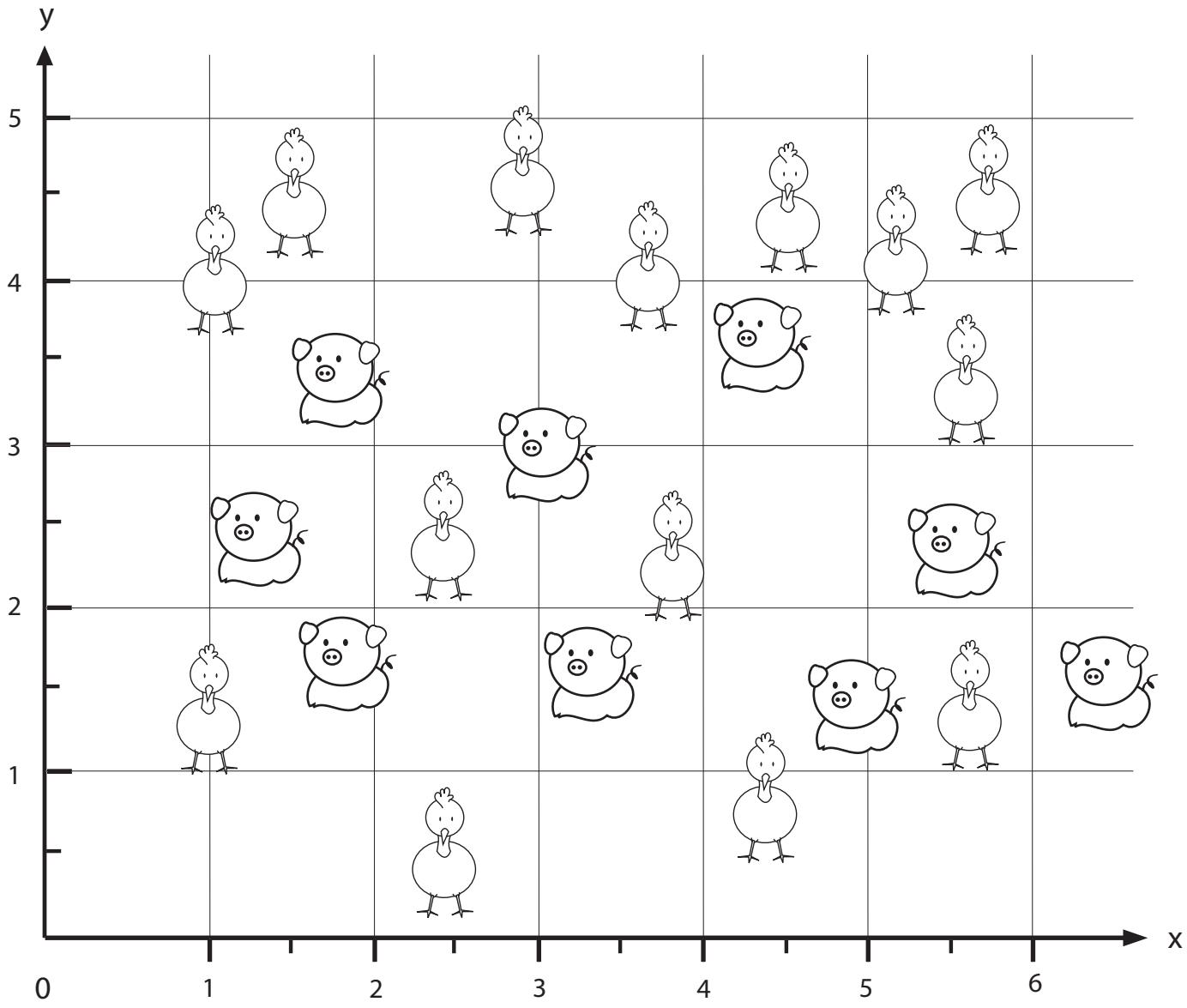
Help farmers Bob and Ted gather their animals by drawing a pen for them using coordinates below. Then answer the questions at the bottom of the page.

Bob's

1. (1, 5)
2. (0.5, 4)
3. (1, 3)
4. (0.5, 2)
5. (0.5, 1)
6. (1.5, 0.5)
7. (2, 1)
8. (3, 1)
9. (4, 1.5)
10. (4.5, 2)
11. (4, 3)
12. (2.5, 4)
13. (2.5, 5)

Ted's

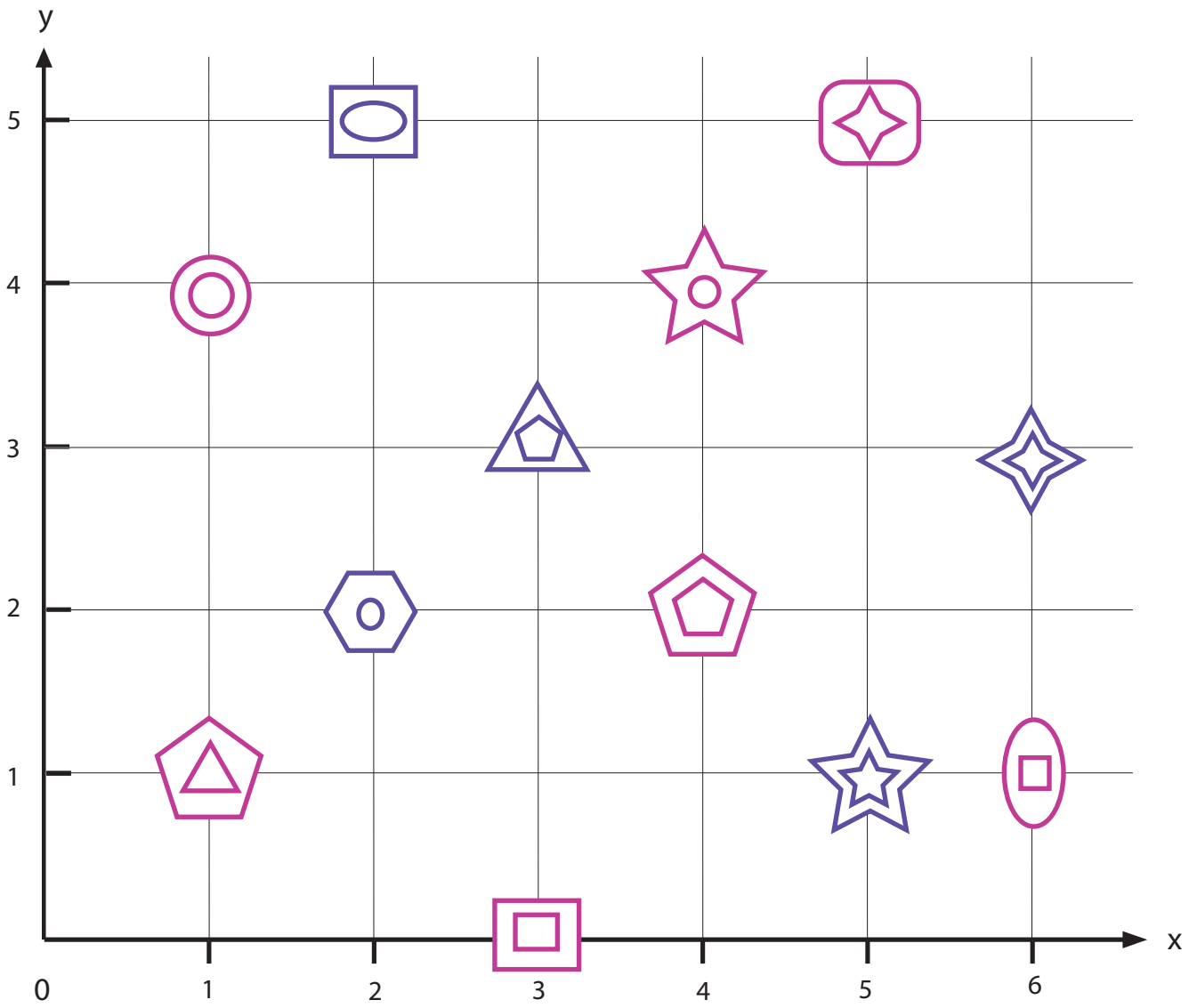
1. (3, 0.5)
2. (5, 0)
3. (6, 1)
4. (6, 5)
5. (4, 5)
6. (3, 4)
7. (4, 3)
8. (5, 3)
9. (5, 2)
10. (4, 1)

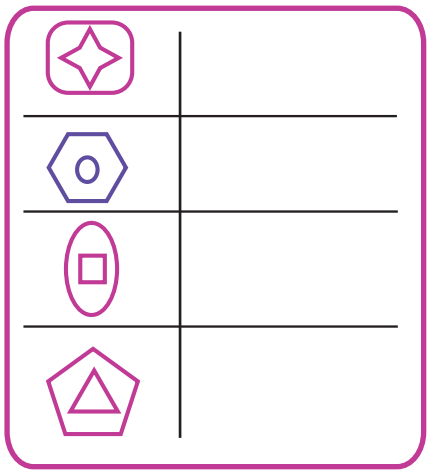


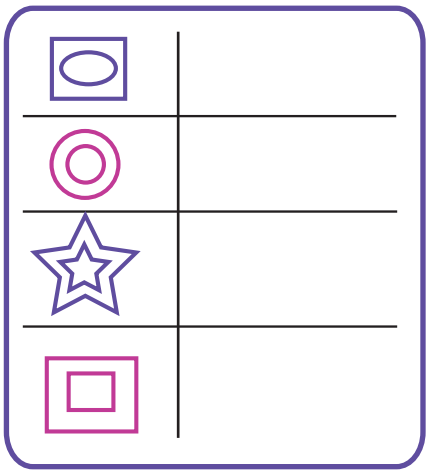
Who has more pigs?
Who has more chickens?
Who has the most animals?

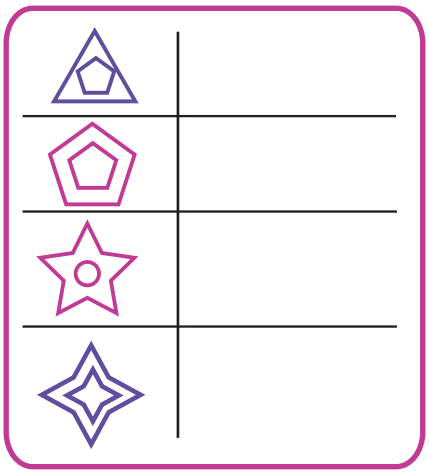
A Warm Quilt: Practice Coordinates

Help Grandma make a quilt. She needs to know where to sew each shape.
Write coordinates as a guide for her sewing pattern.









Meow, Meow: Practice Coordinates

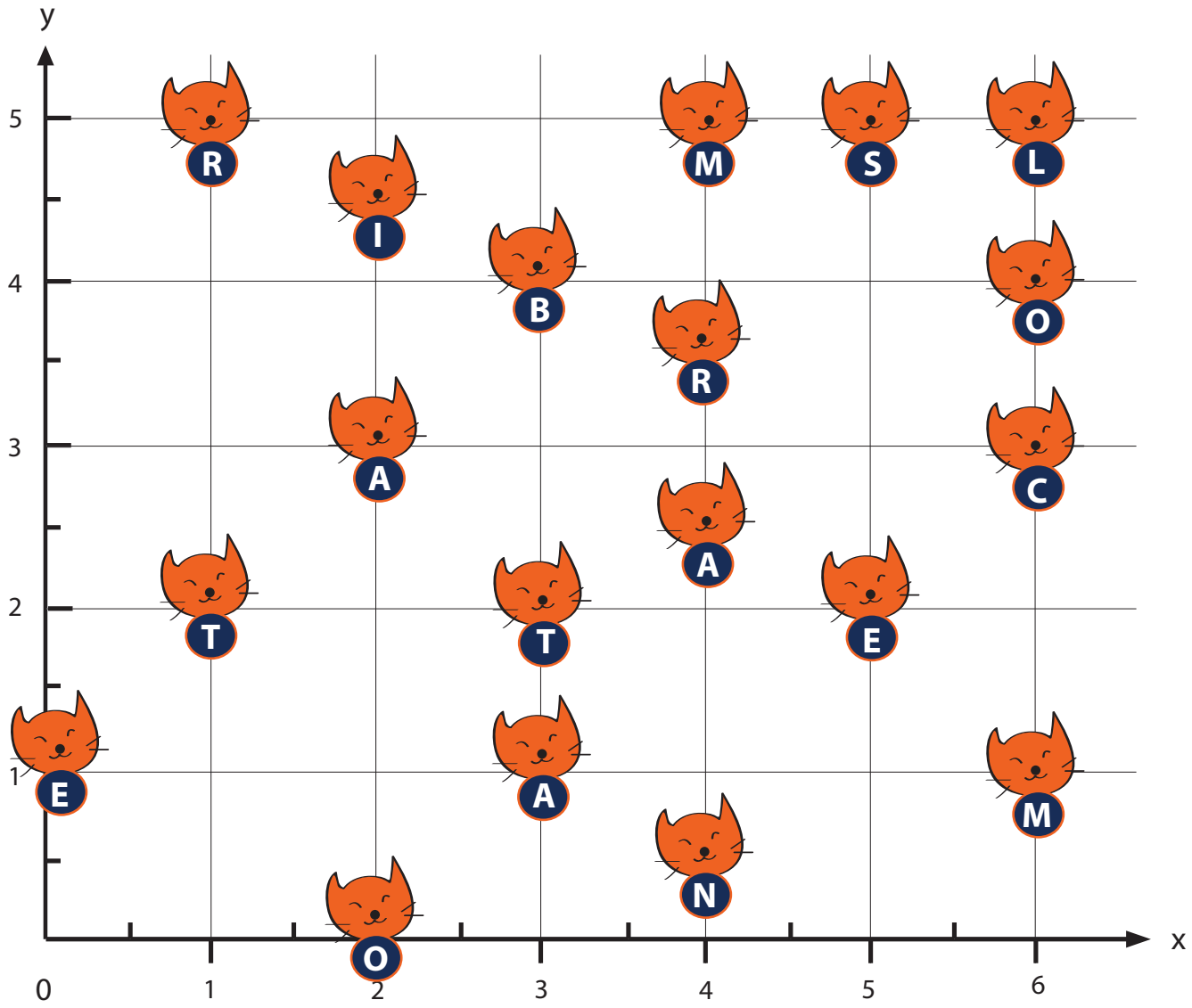
These kittens are lost. To find out where they are from, spell out the letters of the city using the coordinates in order.

City 1

1. (3, 4)
2. (4, 2.5)
3. (6, 5)
4. (1, 2)
5. (2, 4.5)
6. (6, 1)
7. (2, 0)
8. (4, 3.5)
9. (0, 1)

City 2

1. (5, 5)
2. (2, 3)
3. (6, 3)
4. (1, 5)
5. (3, 1)
6. (4, 5)
7. (5, 2)
8. (4, 0.5)
9. (3, 2)
10. (6, 4)



City 1: _____

City 2: _____

Flowers Everywhere: Practice Coordinates

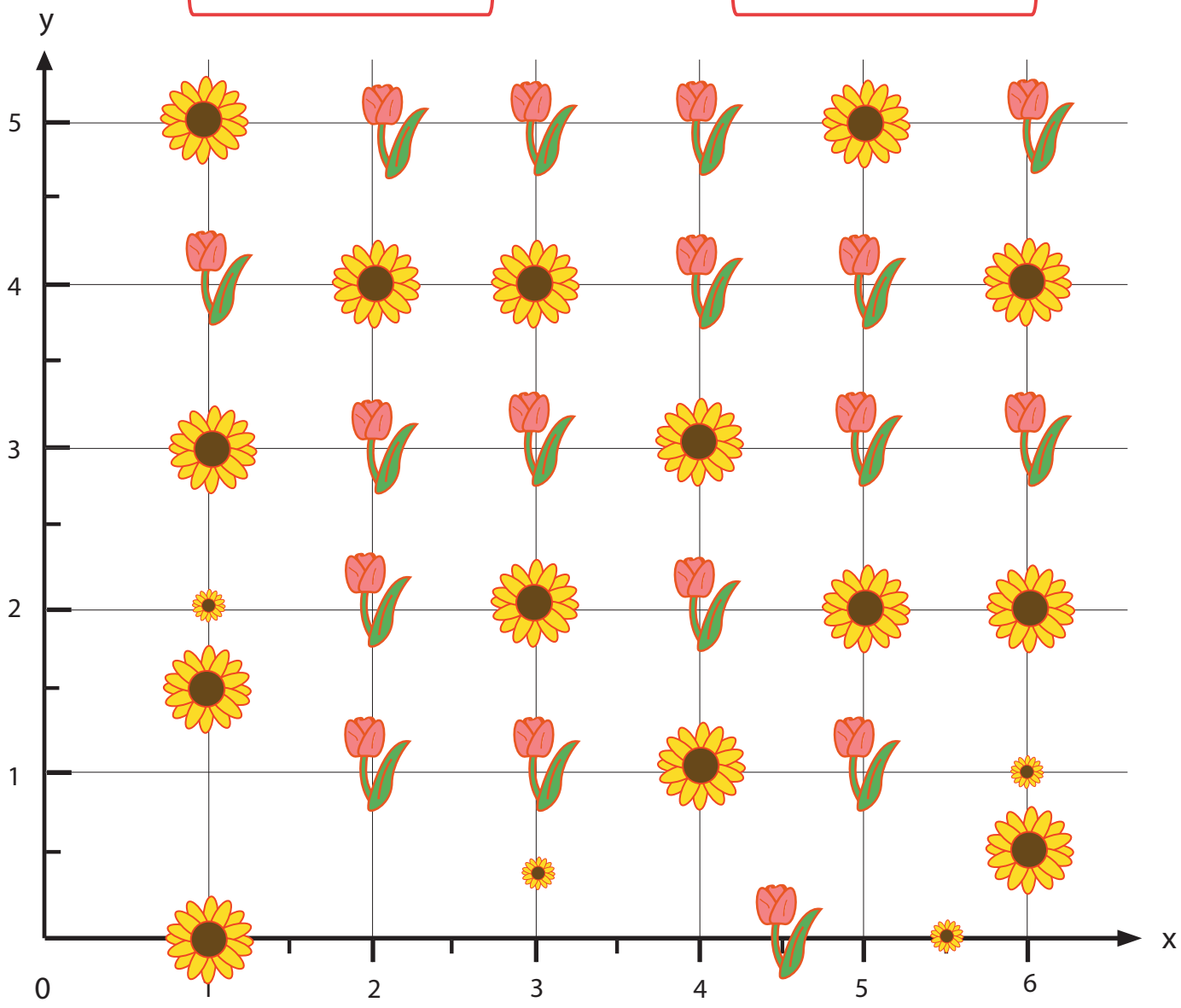
Help Emma pick flowers in her garden to make a bouquet. Using the coordinates below to find out which flowers she should pick. Then answer the questions at the bottom of the page.

Tulip

1. (2, 2)
2. (3, 5)
3. (4, 2)
4. (4.5, 0)
5. (5, 3)
6. (4, 4)
7. (6, 5)
8. (3, 1)

Sunflower

1. (1, 5)
2. (2, 4)
3. (3, 2)
4. (6, 0.5)
5. (5, 5)
6. (3, 4)



1. Which kind of flowers did Emma pick the most of?
2. If she wants an equal number of tulips and sunflowers, which coordinates she should pick?

_____

3. What coordinates have plants that are not fully grown? _____

What's for Dinner?: Practice Coordinates

Spell out the mystery dinner by finding the ingredient that corresponds to each set of coordinates below.

Coordinates

1. (5, 5)
2. (3, 4)
3. (2, 3)
4. (6, 1)
5. (3, 2)
6. (1, 5)
7. (4, 3)
8. (6, 4)
9. (2, 5)
10. (4, 5)
11. (5, 4)
12. (3, 5)
13. (6, 0)

Ingredients

 = A

 = P

 = R

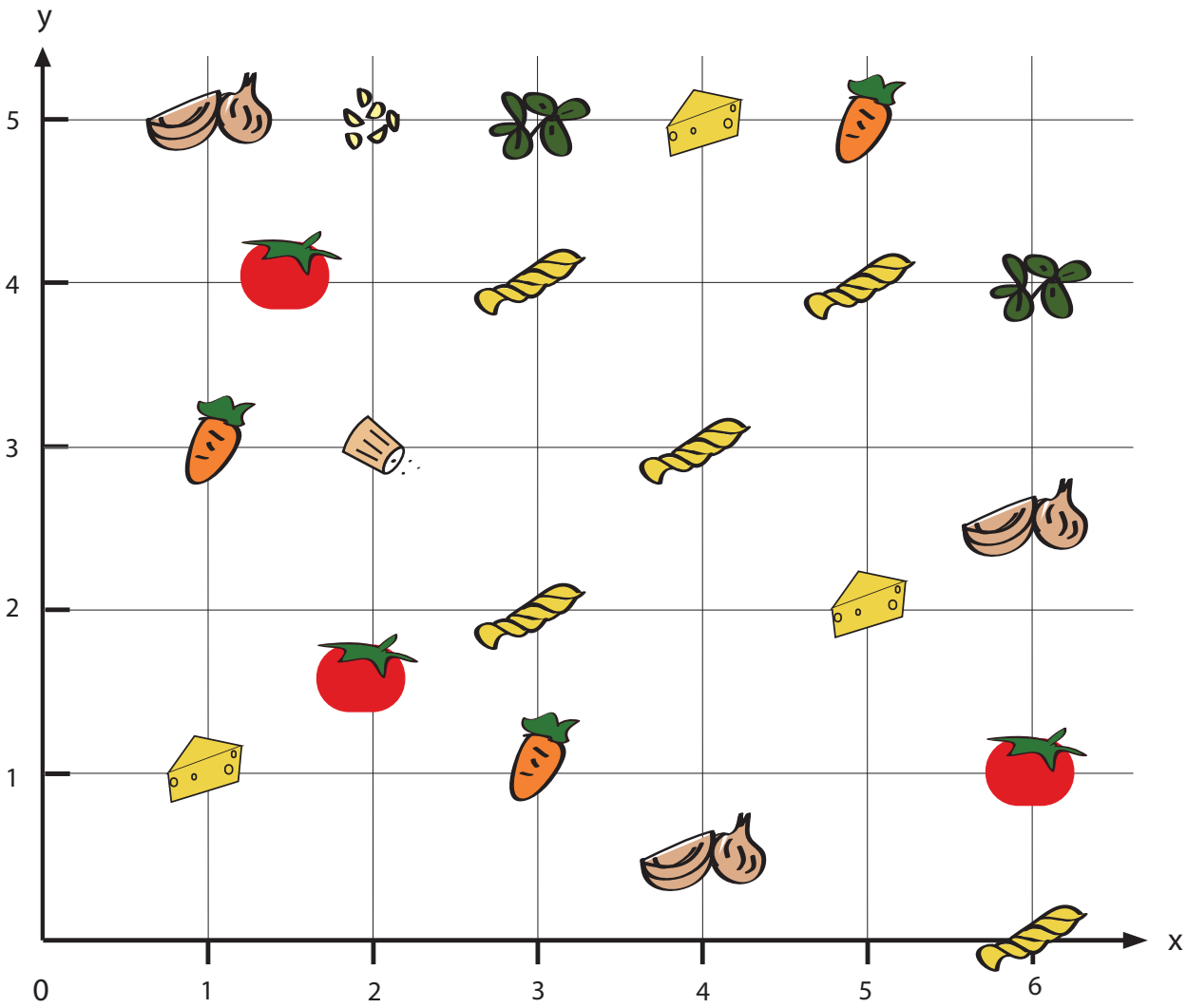
 = T

 = S

 = I

 = N

 = M



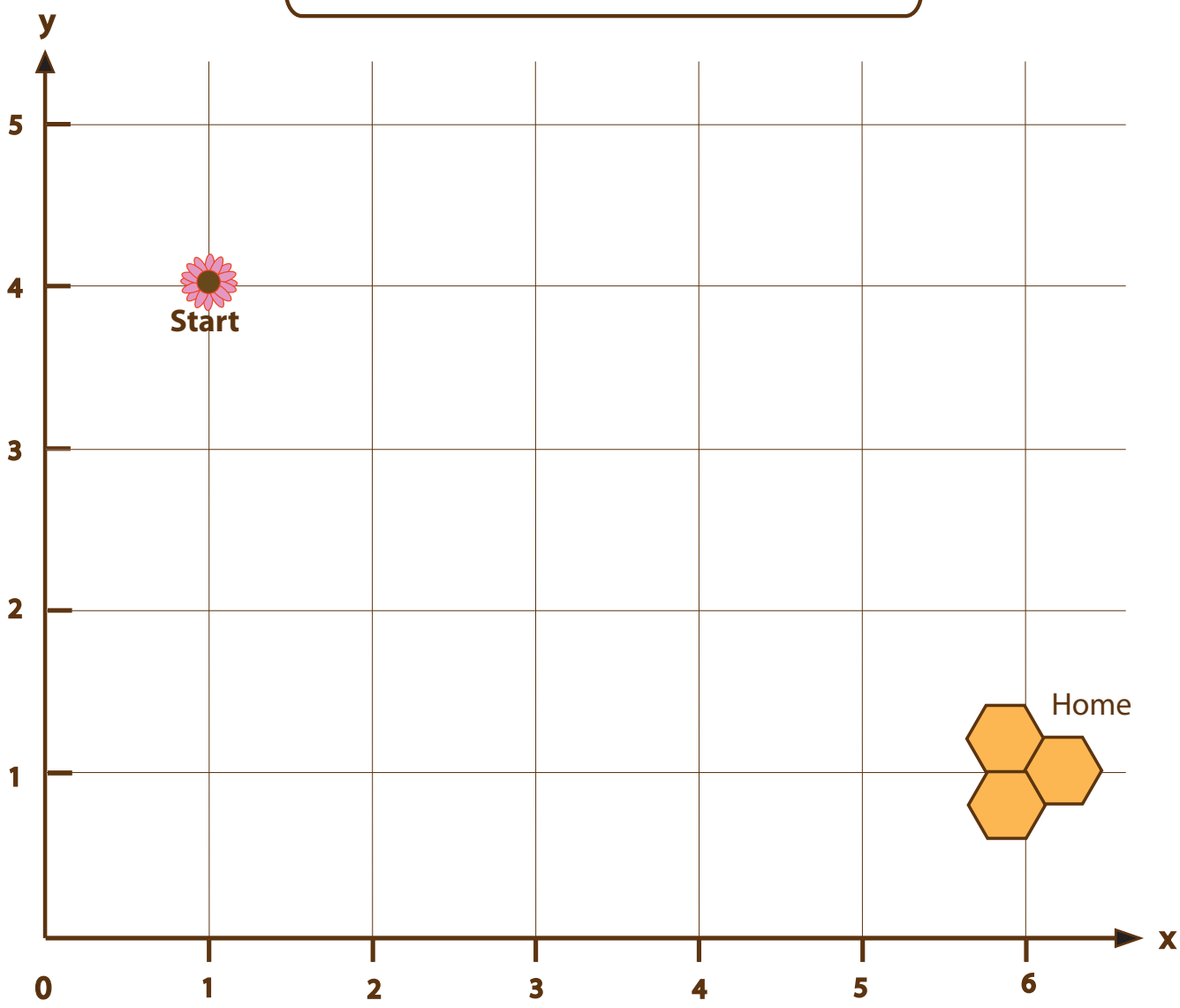
Recipe: _____

Honey Bee: Practice Coordinates

Help honey bee go back to her beehive by plotting the coordinates then drawing a line to connect each dot in order. Do not forget to write the coordinates for the starting point and home.

Pilot A

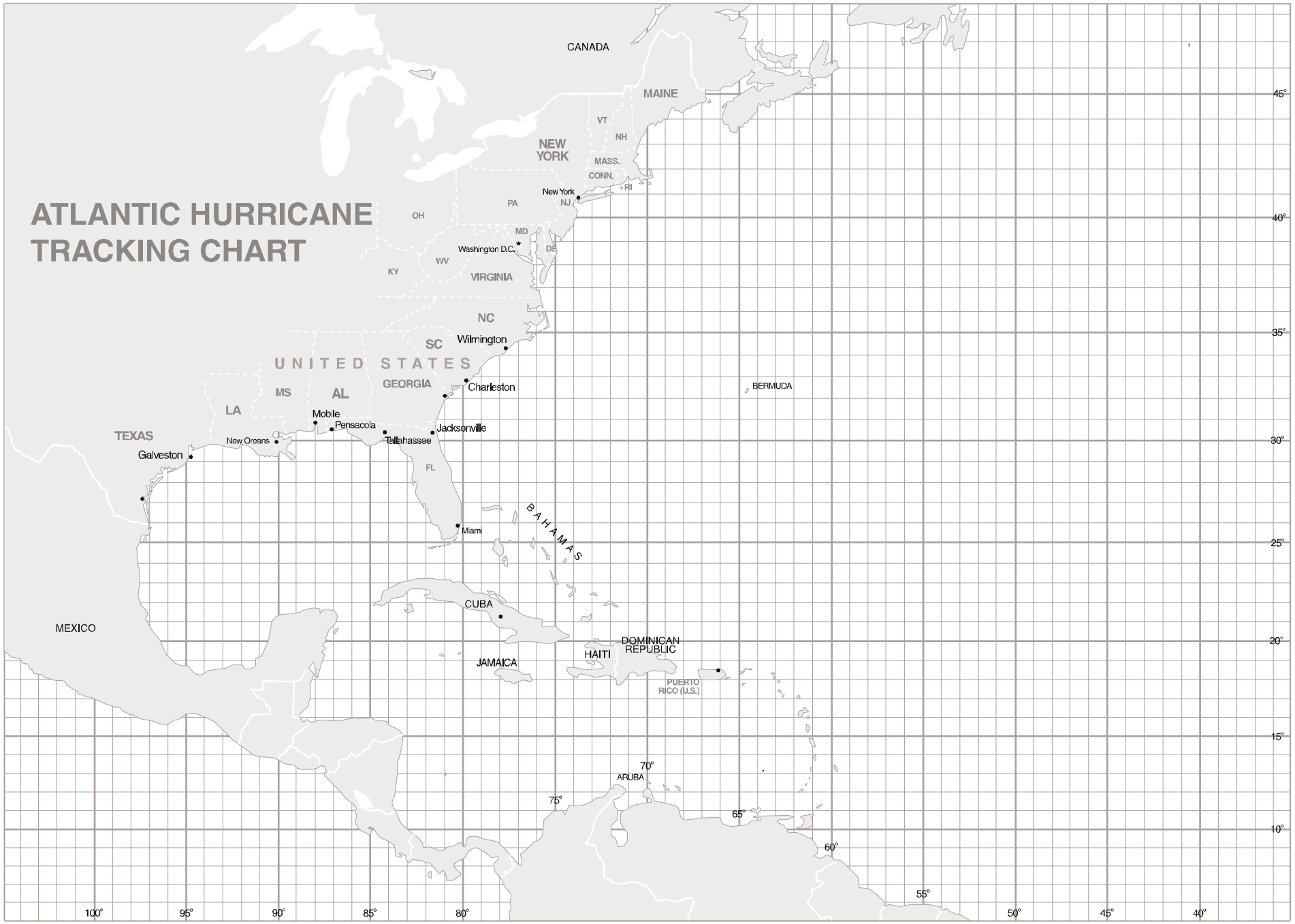
Start _____
2. (2, 3)
3. (3, 5)
4. (4, 4)
5. (2, 2)
6. (0, 0)
7. (3, 1)
8. (3.5, 2)
9. (4, 0)
10. (6, 5)
11. (5, 1)
12. (5.5, 0)
Home _____



TRACK A HURRICANE

= Hurricane = Tropical Storm

Track the course of a current hurricane in the **Atlantic Ocean**. You can get storm coordinates by checking the National Weather Service's data at http://www.nhc.noaa.com



TRACK A HURRICANE

DATA CHART AND INSTRUCTIONS

NAME	DATE	TIME	LATITUDE	LONGITUDE	WIND	MOVEMENT	SPEED

HOW TO TRACK A HURRICANE:

1. Determine the latitude of the storm and locate it on the map. Latitude measures how far north or south a location is from the Equator.
2. Determine the longitude, and locate it on the map. Longitude measures how far east or west a location is from the Prime Meridian.
3. Draw an icon representing a hurricane or a tropical storm.
4. Measure trends over dates, times and record data about wind, directional movement, and speed on the data chart.
5. Repeat steps 1-4 as the storm moves.

TIP: Use a different color for each uniquely named storm if more than one storm is forming in the Atlantic Ocean.

WHAT IS A HURRICANE?:

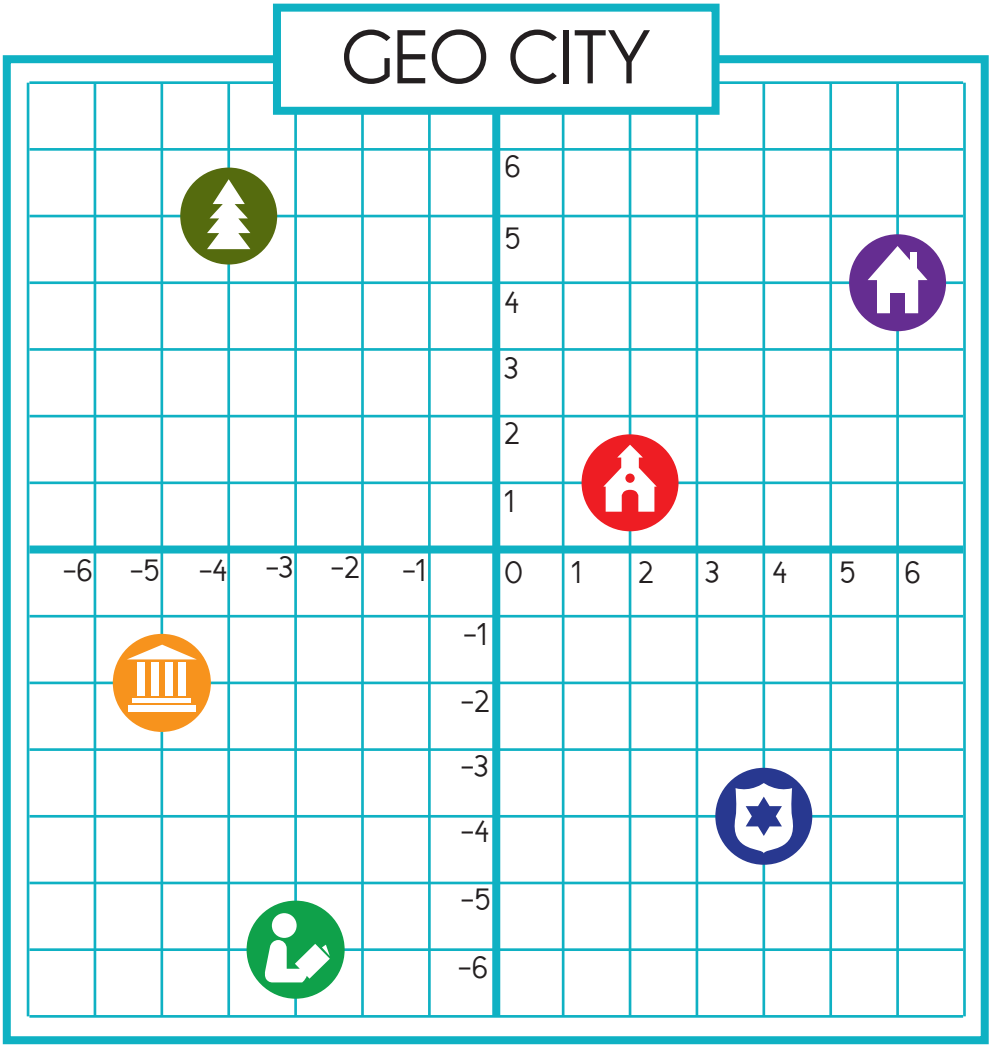
A hurricane is a storm system characterized by a large low-pressure center and numerous thunderstorms that produce strong winds and heavy rain. Hurricanes strengthen when water evaporated from the ocean is released as the saturated air rises, resulting in condensation of water vapor contained in the moist air.

WHEN DO HURRICANES FORM?: In the Northern Atlantic Ocean, a distinct hurricane season occurs from June 1 to November 30, sharply peaking from late August through September.

Ordered Pairs

Name: _____

A pair of perpendicular lines called axes intersect at 0 for each line. A given point on the plane is located by using an ordered pair of numbers called coordinates. The first number ("x" value) indicates how far to travel from the origin horizontally along the x-axis, and the second number ("y" value) indicates how far to travel vertically along the y-axis.



Key

- School
- City Hall
- Park
- Library
- Police Station
- House

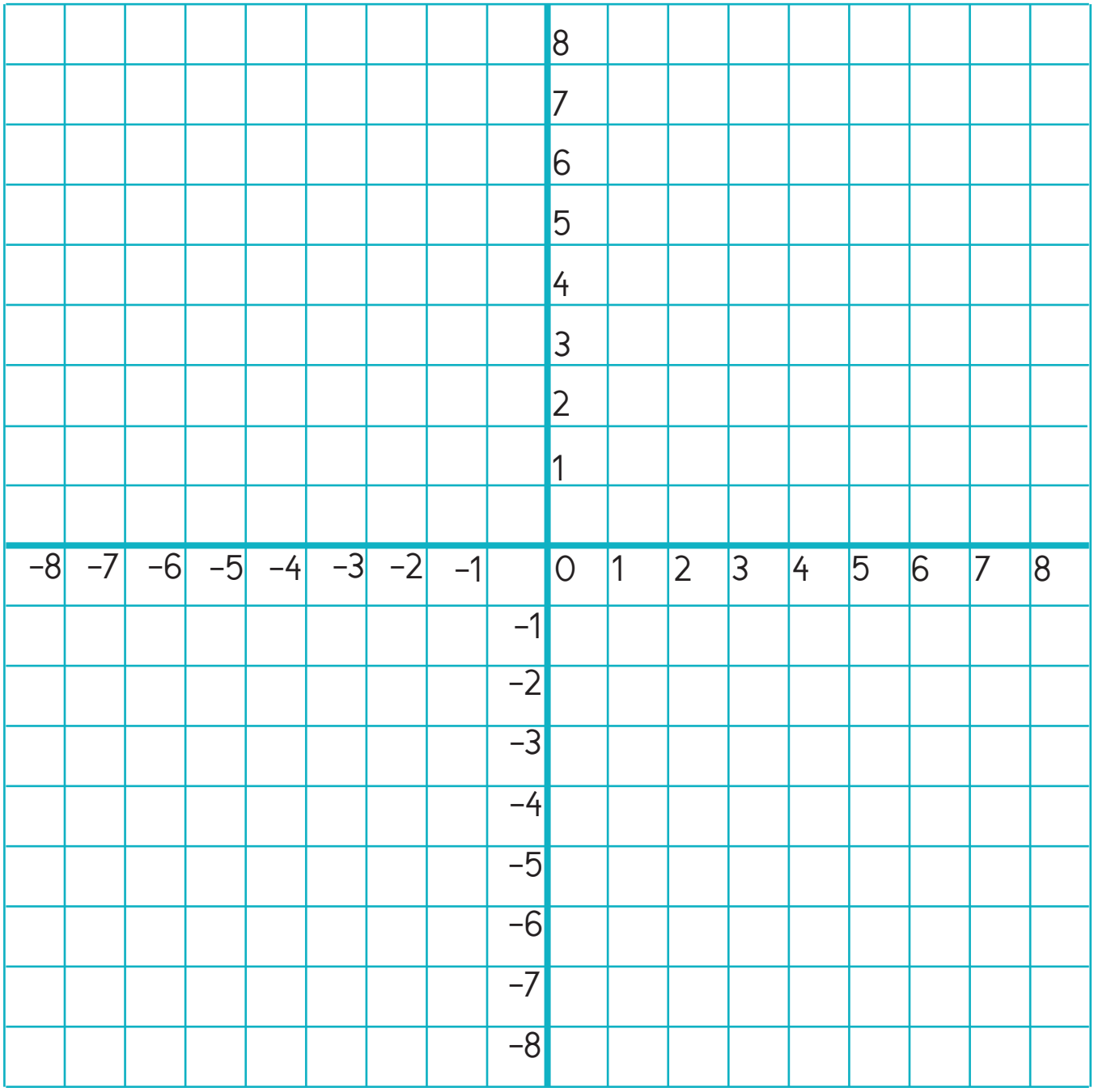
Using the coordinate grid of Geo City, answer the following questions:

1. What is the ordered pair for the location of the police station? _____
2. Which location can be found at coordinates (6, 4)? _____
3. Which location can be found at coordinates (-5, -2)? _____
4. What is the ordered pair for the location of the school? _____
5. Which location can be found at coordinates (-4, 5)? _____
6. What is the ordered pair for the location of the library? _____

Find The Shape!

Name: _____

A pair of perpendicular lines called axes intersect at 0 for each line. A given point on the plane is located by using an ordered pair of numbers called coordinates. The first number ("x" value) indicates how far to travel from the origin horizontally along the x-axis, and the second number ("y" value) indicates how far to travel vertically along the y-axis.



Plot these ordered pairs on the coordinate grid, and connect them with a solid line in the order they appear.

(1, 8), (5, 8), (6, 4), (4, 2), (5, 0), (2, -4), (3, 0), (2, 2), (3, 4)

What shape do you see?

Use the extra space to plot your own shape!

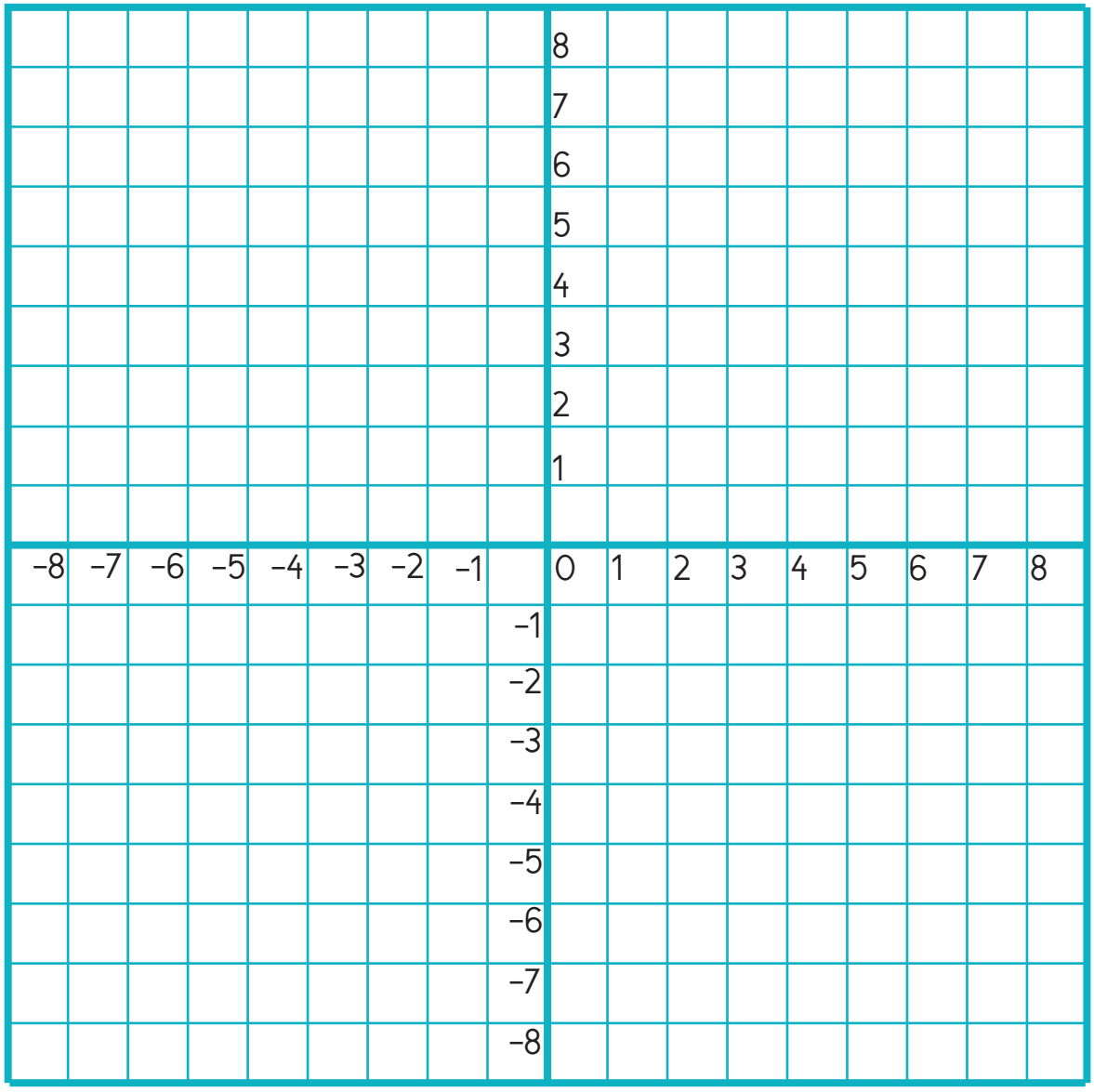
Name: _____

Shapes on a Coordinate Grid

Plot each group of points on the coordinate grid and label with the corresponding letter:

A: (1, 1)	D: (4, -1)	H: (-3, -2)	L: (-2, 7)
B: (7, 1)	E: (6, -4)	I: (-3, -5)	M: (-2, 4)
C: (7, 7)	F: (4, -7)	J: (-8, -5)	N: (-7, 4)
	G: (2, -4)	K: (-6, -2)	O: (-7, 7)

Connect the points in order. Make sure to connect Point C back to Point A, Point D to Point G, Point H to Point K, and Point L to Point O.



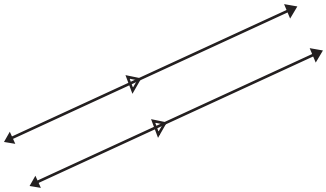
1. Which geometric figures are formed?

2. Which line segments are perpendicular? Which are parallel?

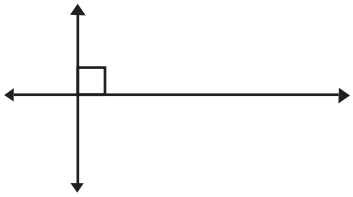
Name: _____

Parallel and Perpendicular Lines

Parallel lines are distinct lines lying in the same plane that never intersect each other.
Perpendicular lines are lines that intersect each other at right angles.

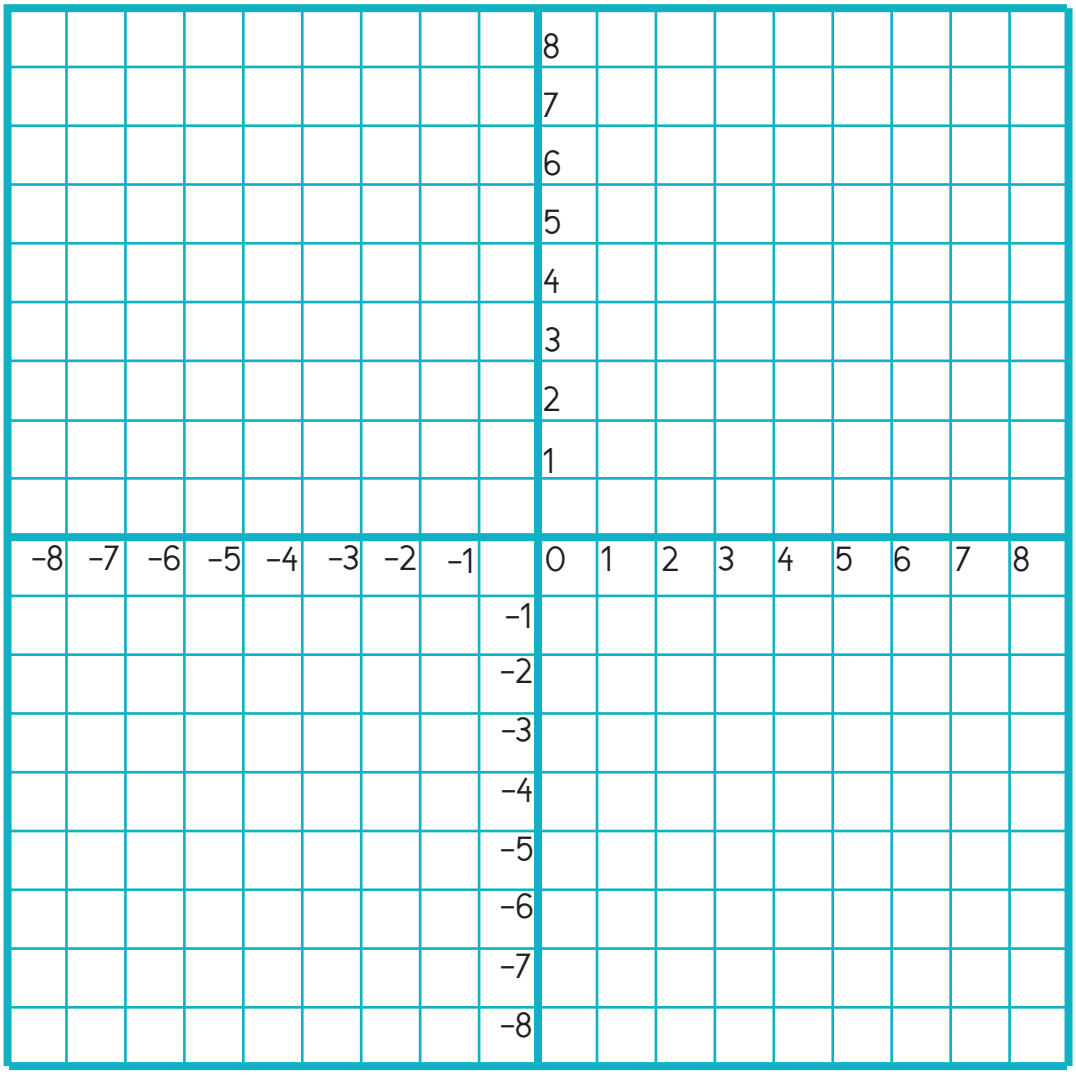


Parallel lines



Perpendicular lines

Mikey draws a line segment from (-3, -3) to (2, 6). He then draws a line segment from (-2, -5) to (3, 4). If he wants to draw another line segment that is parallel to those two segments, what points will he use? What about a line that is perpendicular?

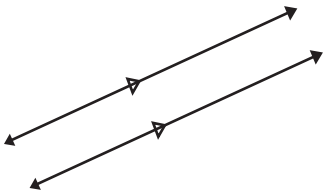


Parallel segment: _____ Perpendicular segment: _____

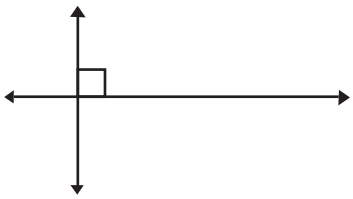
Name: _____

Parallel and Perpendicular Lines

Parallel lines are distinct lines lying in the same plane that never intersect each other.
Perpendicular lines are lines that intersect each other at right angles.

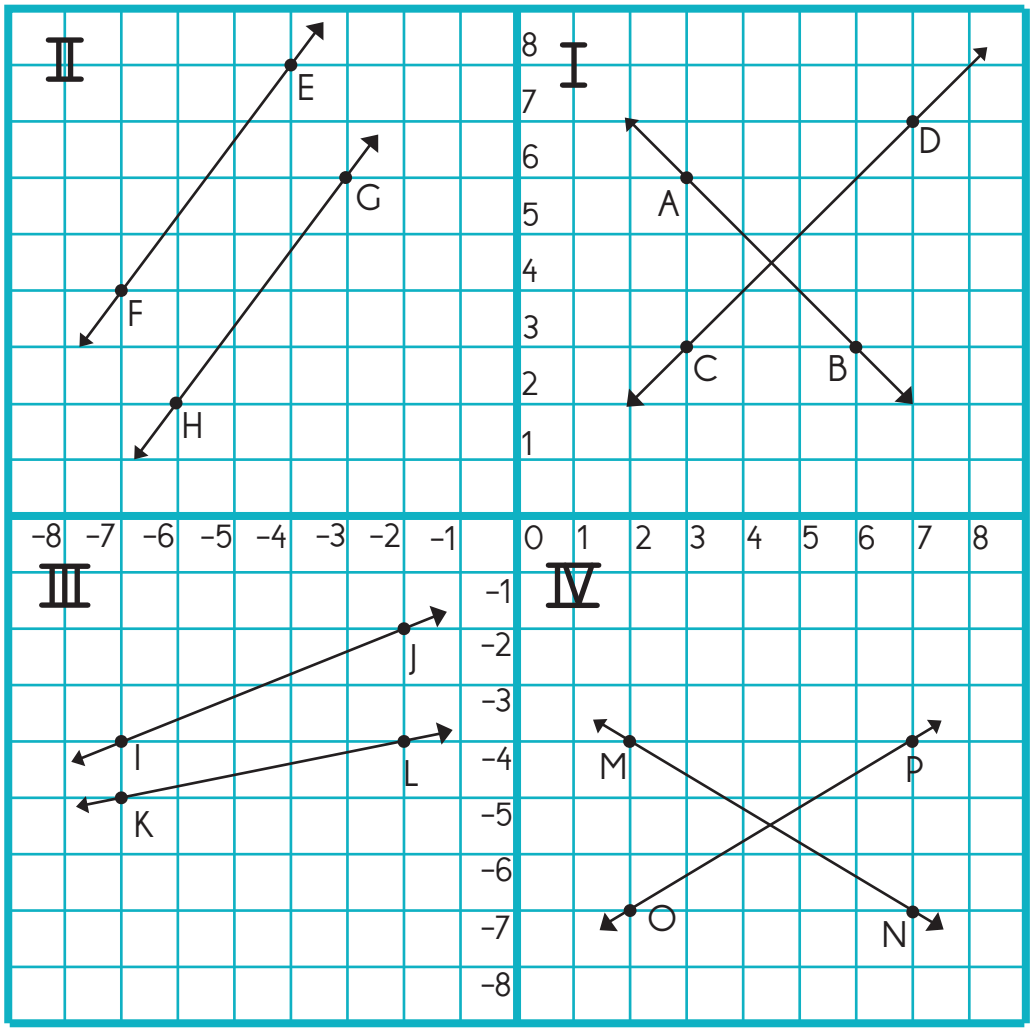


Parallel lines



Perpendicular lines

In each quadrant, determine if the two line segments are parallel, perpendicular, or neither. Explain why.



Quadrant 1: Line AB is _____ to Line CD because _____

Quadrant 1: Line EF is _____ to Line GH because _____

Quadrant 1: Line IJ is _____ to Line KL because _____

Quadrant 1: Line MN is _____ to Line OP because _____

You are a detective trying to solve your hardest case yet, but there's another spy detective trying to solve the case before you! Use the coordinate grids on page 2 to discover your opponent's tools before they are able to solve the case!

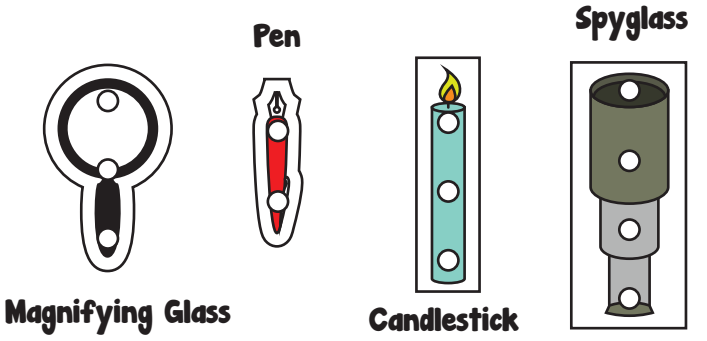
You will need:

- -pair of scissors
- -tape
- -red marker, pen, or crayon
- -black marker, pen, or crayon

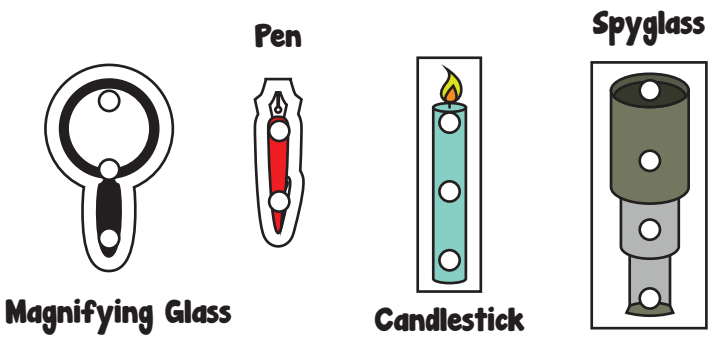
Remember to print 2 copies of page 2!

Game Pieces

Cut out each piece carefully. Each player gets 5 pieces.



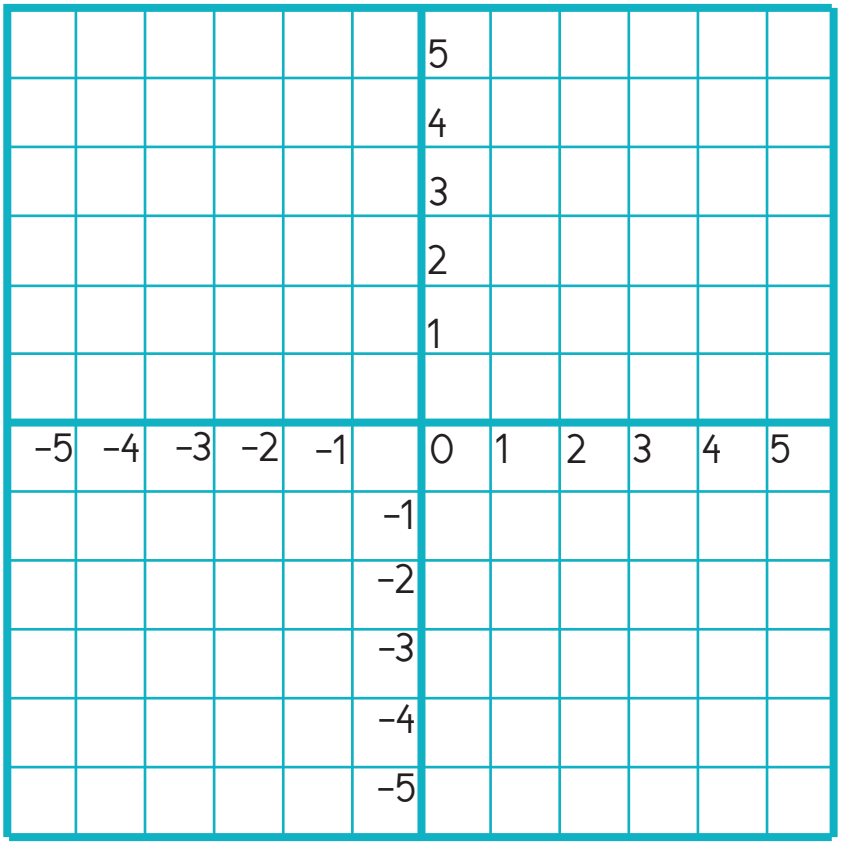
Detective 1



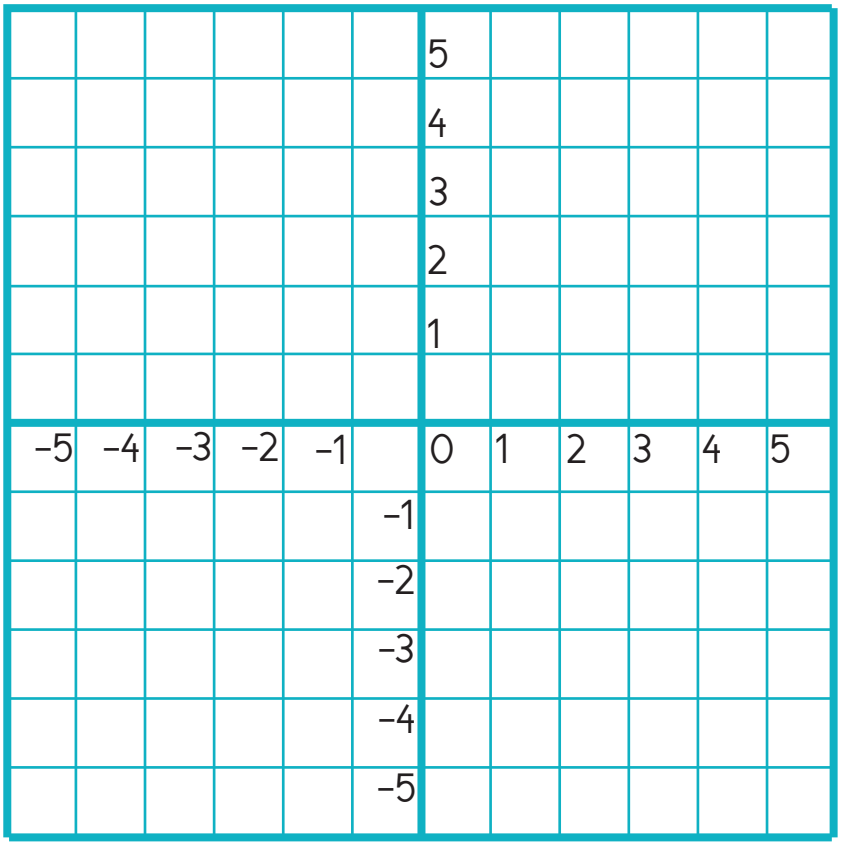
Detective 2

FIND THE SPY

OPPONENT'S BOARD



YOUR BOARD



Detective _____
(your name)

Directions:

1. Use tape to place the five pieces from page 1 onto your board. (Pieces must be placed either horizontally or vertically.)

2. Once both detectives are ready, take turns guessing coordinates ("I Spy -2, 5!") to find your opponents pieces. You and your opponent must reply with "Caught me!" or "Missed me!"

3. If you hit your opponent's mark, mark that coordinate with a red dot on "Opponent's Board." If you miss your opponent's mark, mark that coordinate with a black dot.

4. If your opponent hits one of your marks, mark that coordinate with a red dot on "Your Board."

5. Once a piece has been fully marked, you or your opponent must say "You've discovered my [item]!"

6. Once all five of an opponent's pieces are found, that player has found the spy!

Fold Here

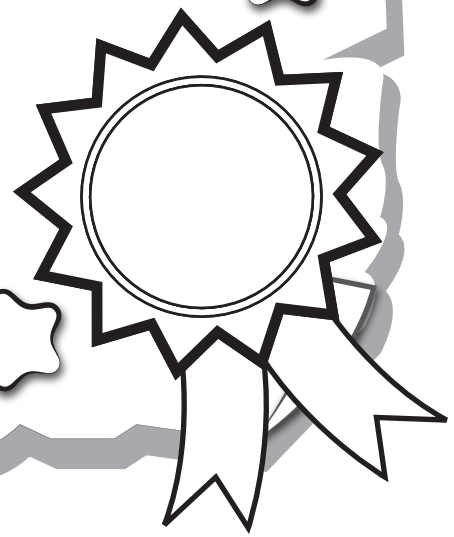
Fold Here

(Use this page as a border between the two players)

Great job!

_____

is an Education.com math superstar



Answer Sheets

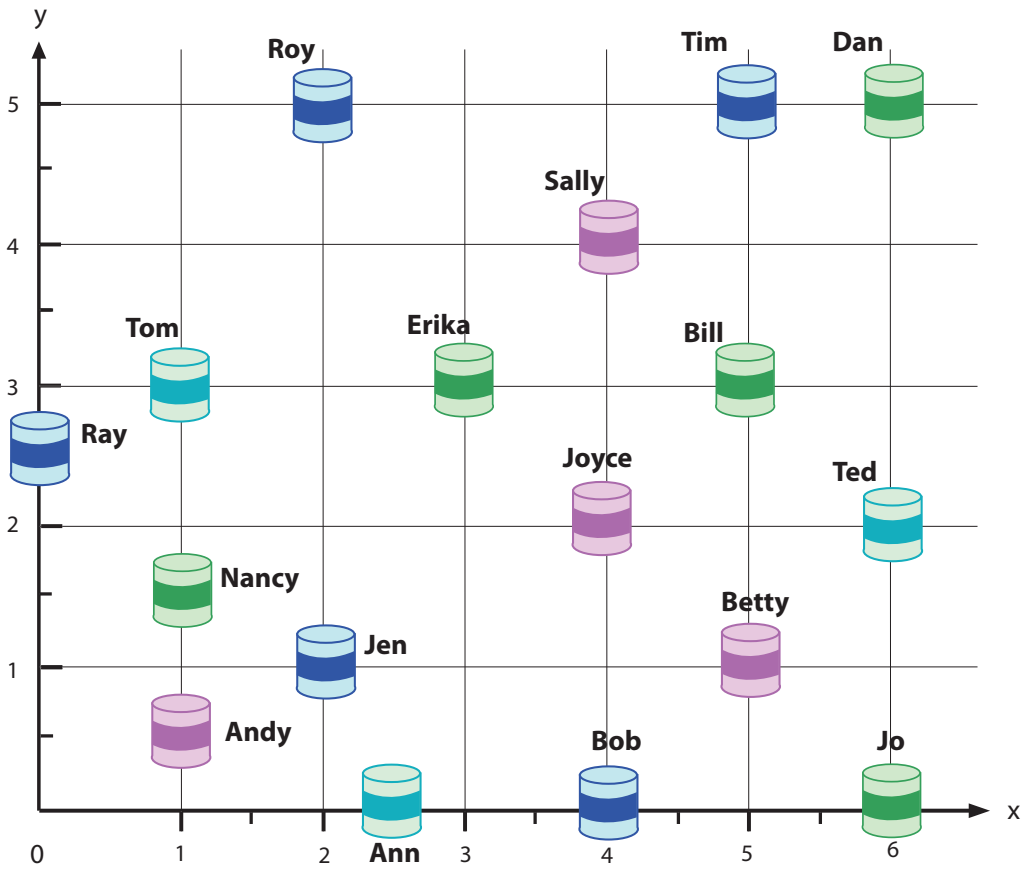
True Grid

Time Capsules: Practice Coordinates
Collision Coordinates
Plot a Dot, Draw a Line, What Do You Find?
Where are They? Tell the Position
Traveling to the South Pole: Practice Coordinates and Perimeter
Working On The Farm: Practice Coordinates
A Warm Quilt: Practice Coordinates
Meow, Meow: Practice Coordinates
Flowers Everywhere: Practice Coordinates
What's For Dinner? Practice Coordinates
Ordered Pairs
Find the Shape!
Shapes on a Coordinate Grid
Parallel and Perpendicular Lines

Answer Sheet

Answer Sheet
Time Capsules: Practice Coordinates

Your friends need your help in writing code to show where they buried their time capsules, so later they will remember where they are.



Roy = (2, 5)
Bill = (5, 3)
Jo = (6, 0)
Andy = (1, 0.5)
Tom = (1, 3)
Jen = (2, 1)
Ray = (0, 2.5)
Betty = (5, 1)
Tim = (5, 5)
Erika = (3, 3)
Joyce = (4, 2)
Dan = (6, 5)
Ann = (2.5, 0)
Nancy = (1, 1.5)
Ted = (6, 2)
Bob = (4, 0)
Sally = (4, 4)

Answer Sheet

Collision Coordinates

Answer Sheet

4TH GRADE
LINEAR MATH

Balloons and birds are on a collision course in the sky! When their paths cross, the balloons pop! Plot 10 points for each of the 4 linear equations using the T-charts given. Graph each line on the x-y coordinates and answer the questions on the right.

Red balloon
$y = 2x - 24$

x	y
12	0
13	2
14	4
15	6
17	10
19	14
20	16
21	18
23	22
24	24

Green balloon
$y = 3x - 75$

x	y
25	0
26	3
27	6
28	9
29	12
30	15
31	18
32	21
33	24
34	27

Orange bird
$y = {}^{x}/_{2} + 6$

x	y
0	6
2	7
4	8
6	9
8	10
10	11
14	13
18	15
22	17
24	18

Blue bird
$y = {}^{x}/_{4} + 13$

x	y
0	13
4	14
8	15
12	16
16	17
20	18
24	19
28	20
32	21
36	22

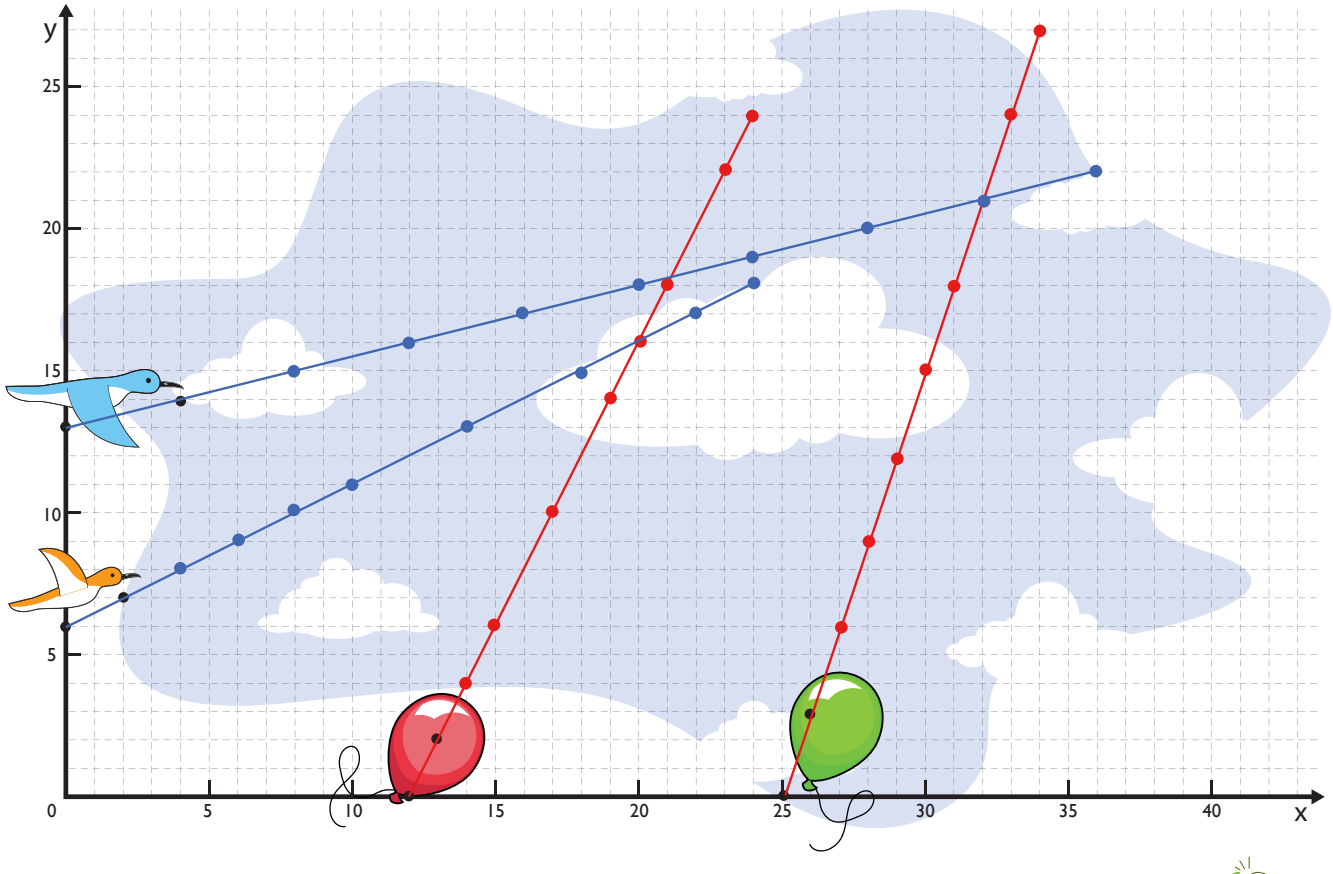
At what coordinate (x,y) does the orange bird pop the red balloon?

(20 , 16)

At what coordinate (x,y) does the blue bird pop the green balloon?

(32 , 21)

← Coordinate answers will vary depending on choice of X.



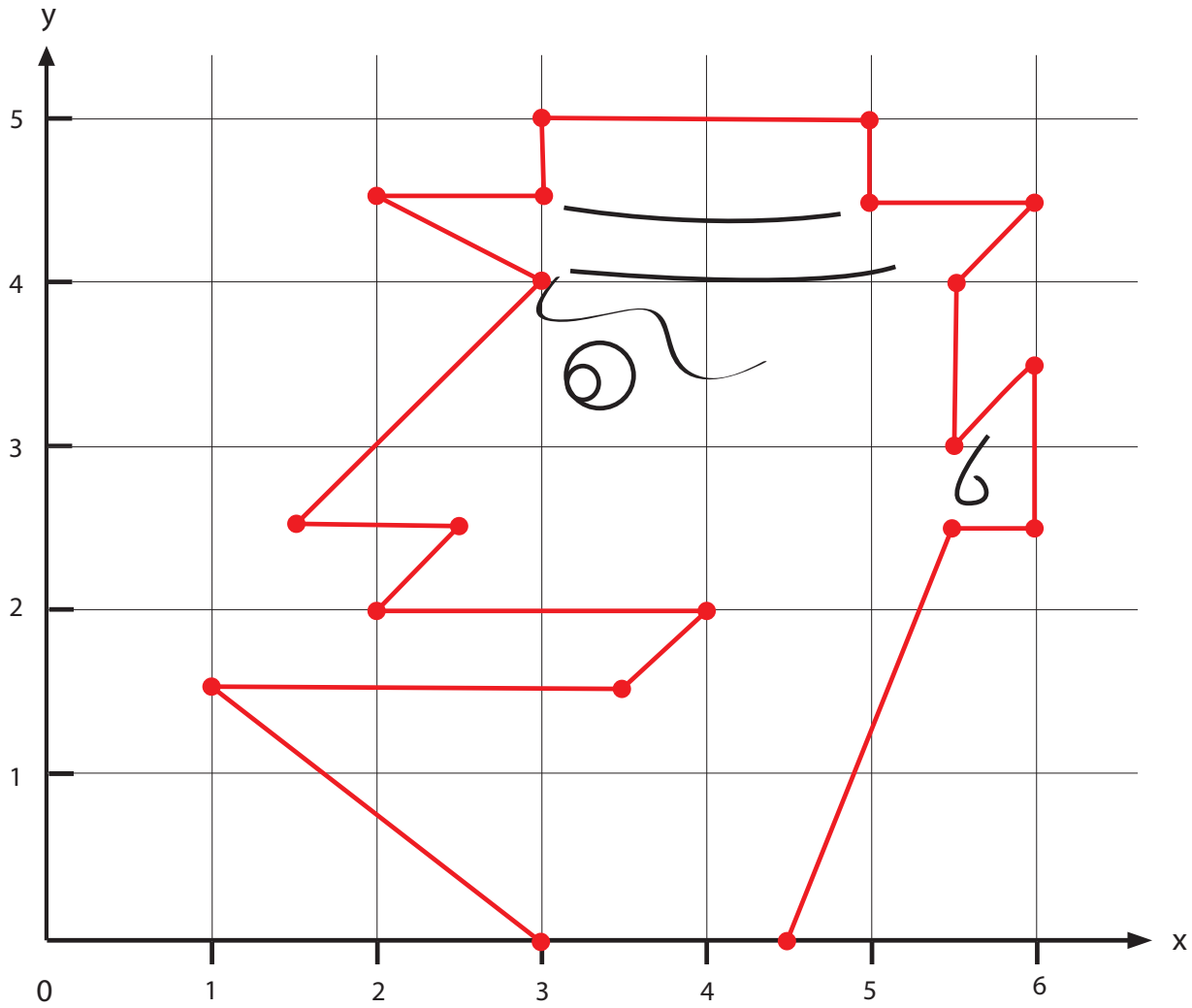
Answer Sheet

Answer Sheet

Plot a dot, Draw a line, What do you find?

Can you find the hiddden image? Plot the coordinates in order, draw a line between each one, and see what figure appears! Remember, the first number is on the X axis and the second number is on the Y axis.

1. (3, 0)	9. (2, 4.5)	17. (6, 3.5)
2. (1, 1.5)	10. (3, 4.5)	18. (6, 2.5)
3. (3.5, 1.5)	11. (3, 5)	19. (5.5, 2.5)
4. (4,2)	12. (5,5)	20. (4.5, 0)
5. (2,2)	13. (5, 4.5)	
6. (2.5, 2.5)	14. (6, 4.5)	
7. (1.5, 2.5)	15. (5.5, 4)	
8. (3, 4)	16. (5.5, 3)	

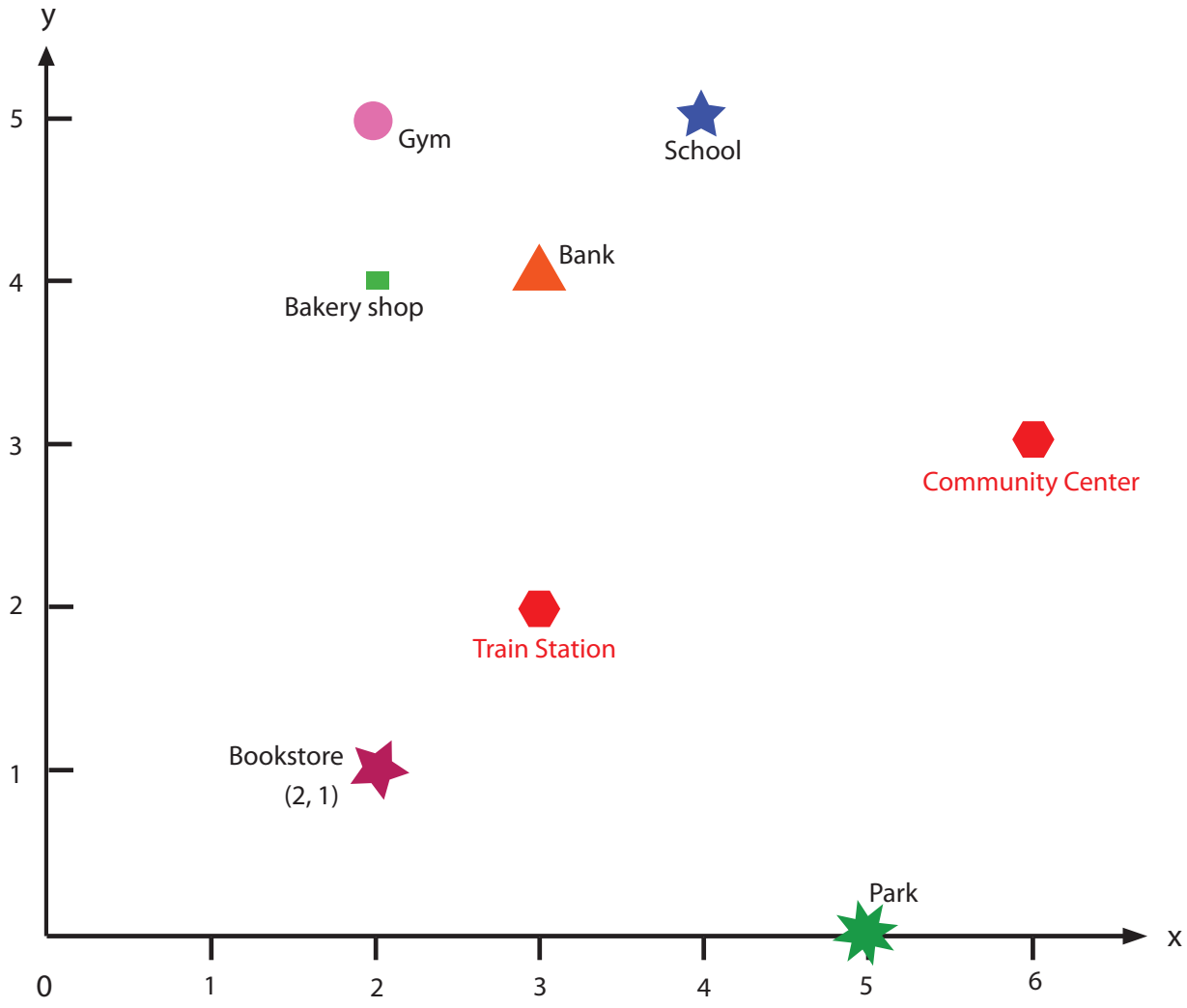


Answer Sheet

Answer Sheet

Where are they?: Tell the position

Your friend is new in town. Tell her positions of a store, bank, and school using X and Y Coordination.
Write the coordinates of each place next to the position (look at the example).
Then, answer questions below.
Review: The first number refers to X coordinate. The second number refers to Y coordinate.



What is the x-coordinate of the school? 4

What is the y-coordinate of the park? 0

Mark on a grid a position of a train station which is (3, 2).

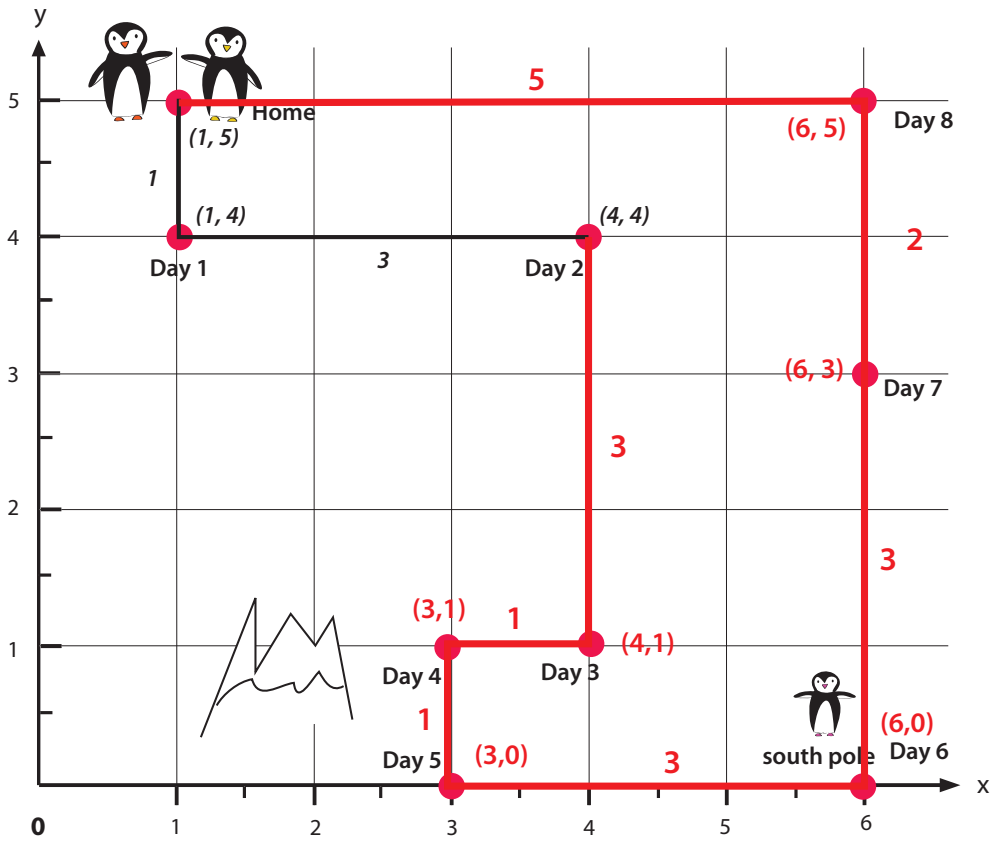
Mark on a grid a position of a community center which is (6, 3).

Answer Sheet

Answer Sheet

Traveling to the South Pole: Practice Coordinates and Perimeter

The penguin parents are traveling to the South Pole to pick up their baby, stopping at each point on the grid along the way. Then together, the three of them will go back home in a different route. See how far their route is by finding the distance between the coordinates (see examples below).
Review: The first number refers to X coordinate. The second number refers to Y coordinate.



Example:
Day 1: Distance between home (1, 5) to Day 1 stop (1, 4). Subtract difference of Y-value of each location. Y value of home = 5, Y value of Day 1 stop = 4.
Therefore, the distance is 5 - 4 = 1. Then draw a line from each point and write 1.

Day 2: Distance between Day 1 stop (1, 4) to Day 2 stop (4, 4). Subtract difference of X-value of each location. X value of Day 2 stop = 4, X value of Day 1 stop = 1.
Therefore, the distance is 4 - 1 = 3. Then draw a line from each point and write 3.

Day 3: (4,1)
4 - 1 = 3

Day 4: (3,1)
4 - 3 = 1

Day 5: (3,0)
1 - 0 = 1

Day 6: (6,0)
6 - 3 = 3

Day 7: (6,3)
3 - 0 = 3

Day 8: (6,5)
5 - 3 = 2

Day 8 to Home:
6 - 1 = 5

Answer Sheet

Working On The Farm: Practice Coordinates

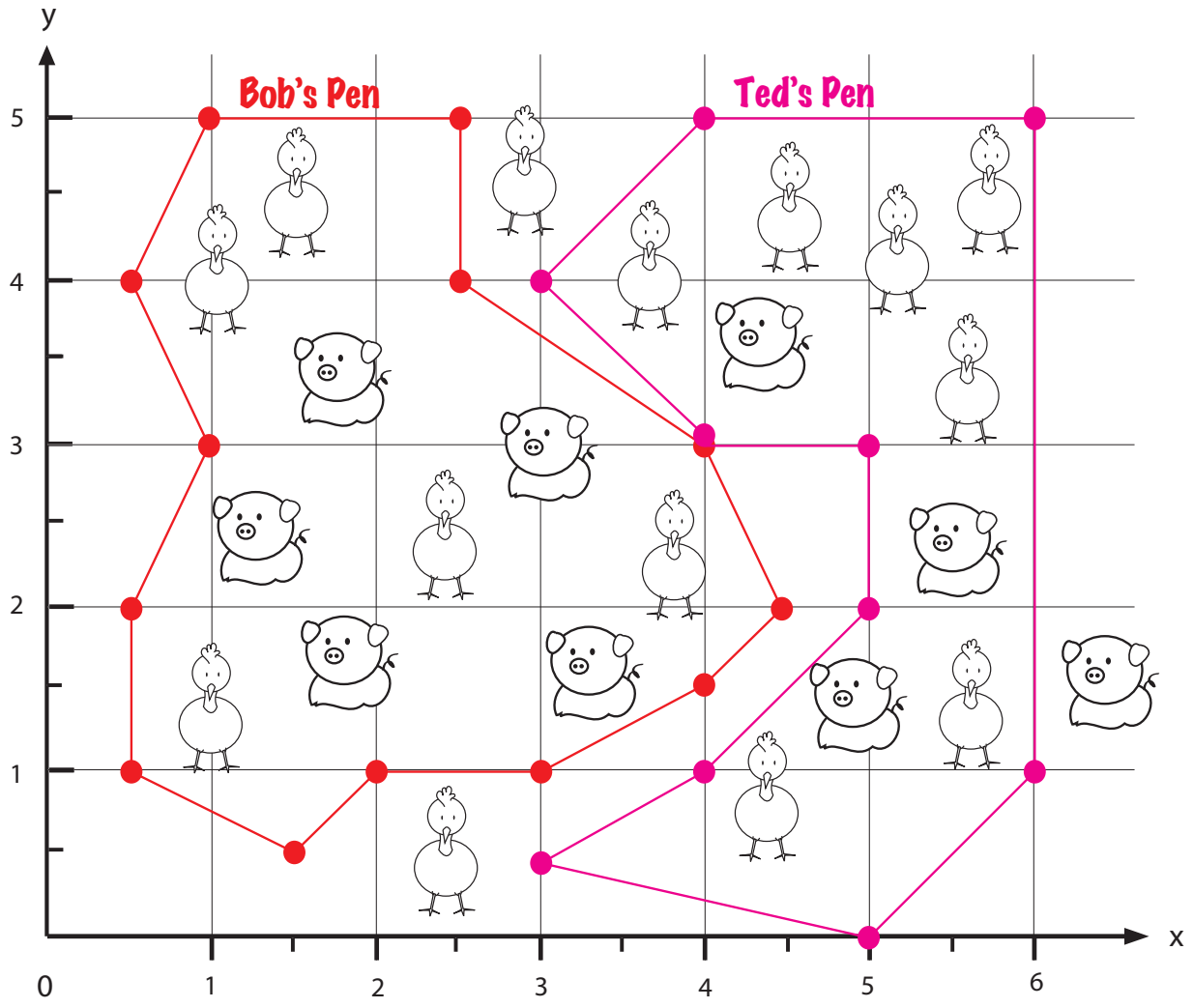
Help farmers Bob and Ted gather their animals by drawing a pen for them using coordinates below. Then answer the questions at the bottom of the page.

Bob's

1. (1, 5)	5. (0.5, 1)	9. (4, 1.5)	13. (2.5, 5)
2. (0.5, 4)	6. (1.5, 0.5)	10. (4.5, 2)	
3. (1, 3)	7. (2, 1)	11. (4, 3)	
4. (0.5, 2)	8. (3, 1)	12. (2.5, 4)	

Ted's

1. (3, 0.5)	5. (4, 5)	9. (5, 2)
2. (5, 0)	6. (3, 4)	10. (4, 1)
3. (6, 1)	7. (4, 3)	
4. (6, 5)	8. (5, 3)	

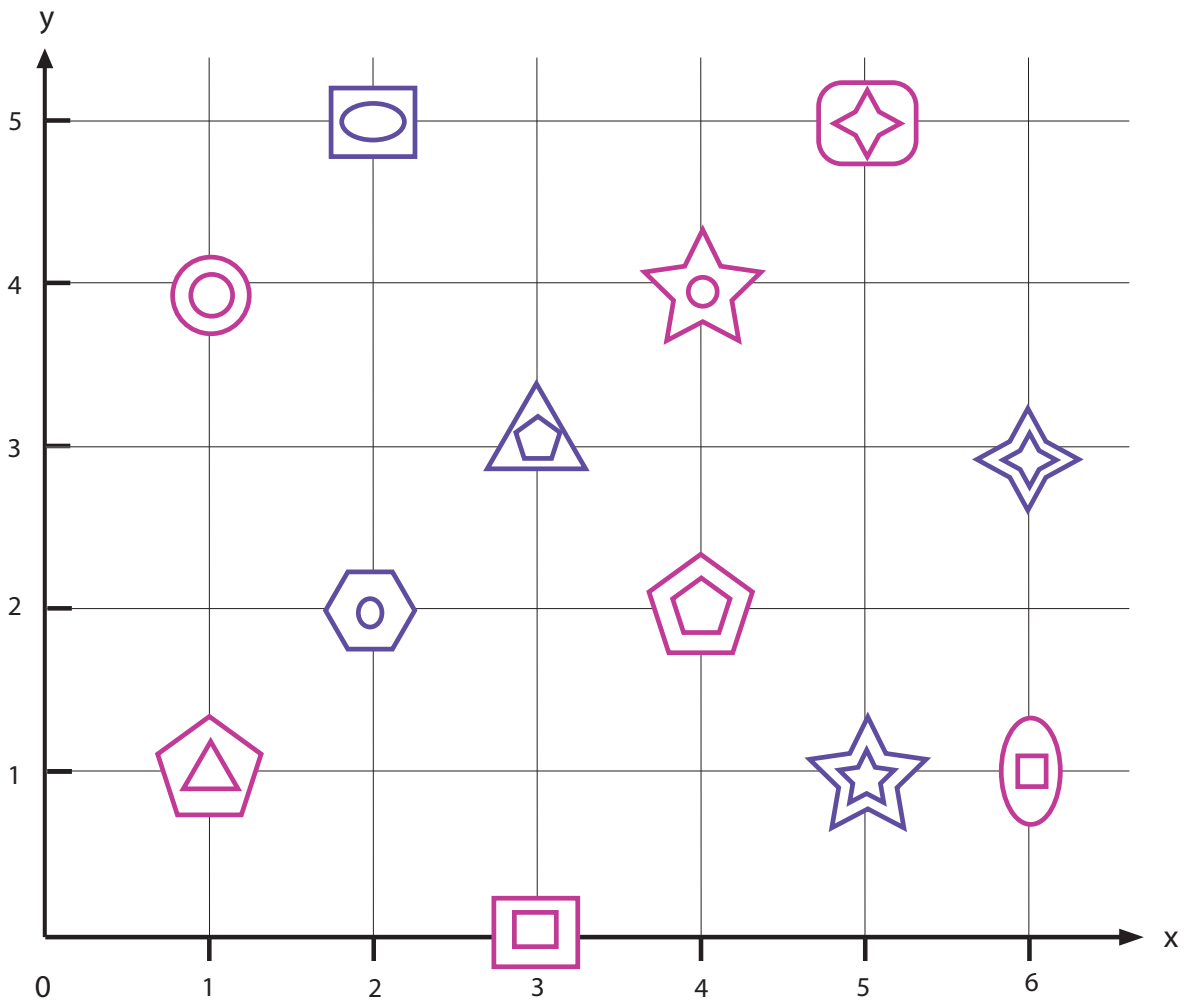


Who has more pigs? **Bob**
Who has more chickens? **Ted**
Who has the most animals? **They each have 10 animals.**

Answer Sheet

A Warm Quilt: Practice Coordinates

Help Grandma make a quilt. She needs to know where to sew each shape.
Write coordinates as a guide for her sewing pattern.



	(5,5)
	(2,2)
	(6,1)
	(1,1)

	(2,5)
	(1,4)
	(5,1)
	(3,0)

	(3,3)
	(4,2)
	(4,4)
	(6,3)

Answer Sheet

Meow, Meow: Practice Coordinates

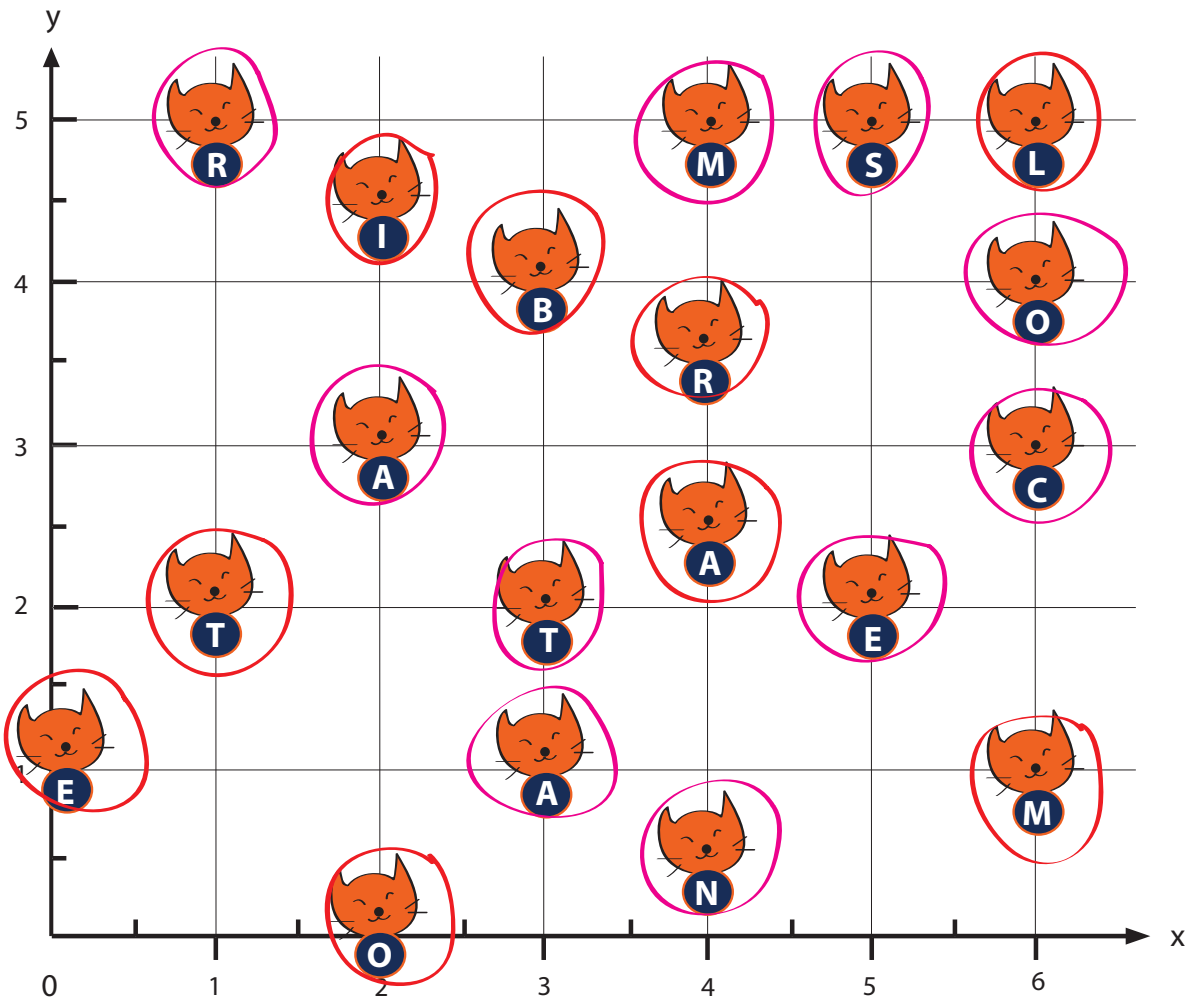
These kittens are lost. To find out where they are from, spell out the letters of the city using the coordinates in order.

City 1

1. (3, 4)
2. (4, 2.5)
3. (6, 5)
4. (1, 2)
5. (2, 4.5)
6. (6, 1)
7. (2, 0)
8. (4, 3.5)
9. (0, 1)

City 2

1. (5, 5)
2. (2, 3)
3. (6, 3)
4. (1, 5)
5. (3, 1)
6. (4, 5)
7. (5, 2)
8. (4, 0.5)
9. (3, 2)
10. (6, 4)



City 1: BALTIMORE

City 2: SACRAMENTO

Answer Sheet

Flowers Everywhere: Practice Coordinates

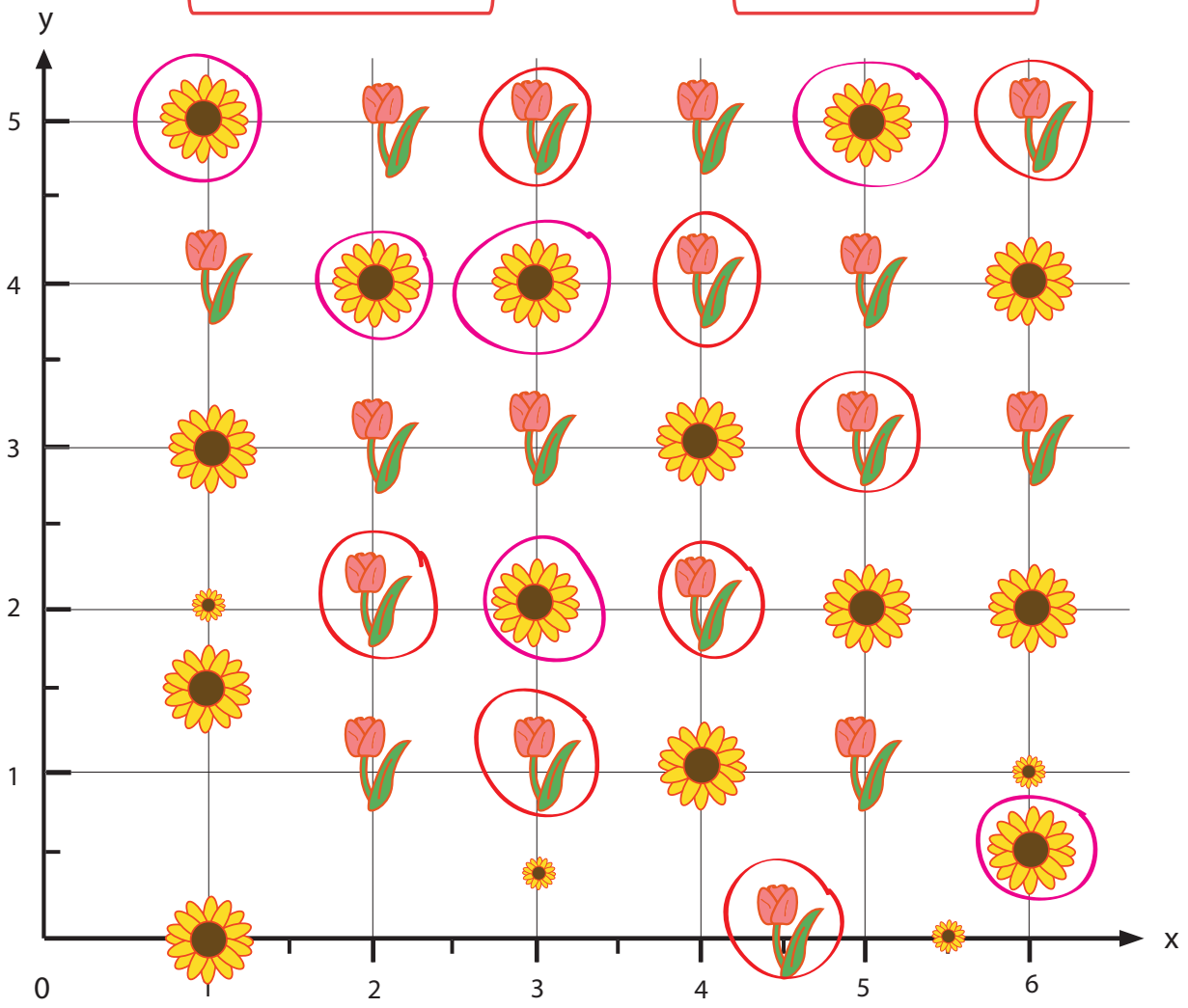
Help Emma pick flowers in her garden to make a bouquet. Using the coordinates below to find out which flowers she should pick. Then answer the questions at the bottom of the page.

Tulip

1. (2, 2)
2. (3, 5)
3. (4, 2)
4. (4.5, 0)
5. (5, 3)
6. (4, 4)
7. (6, 5)
8. (3, 1)

Sunflower

1. (1, 5)
2. (2, 4)
3. (3, 2)
4. (6, 0.5)
5. (5, 5)
6. (3, 4)



1. Which kind of flowers did Emma pick the most of? Tulips
2. If she wants an equal number of tulips and sunflowers, which coordinates she should pick? (answers will vary)
3. What coordinates have plants that are not fully grown? (1, 2) (3, 0.5) (5.5, 0) (6, 1)

Answer Sheet

ANSWER SHEET

What's for Dinner?: Practice Coordinates

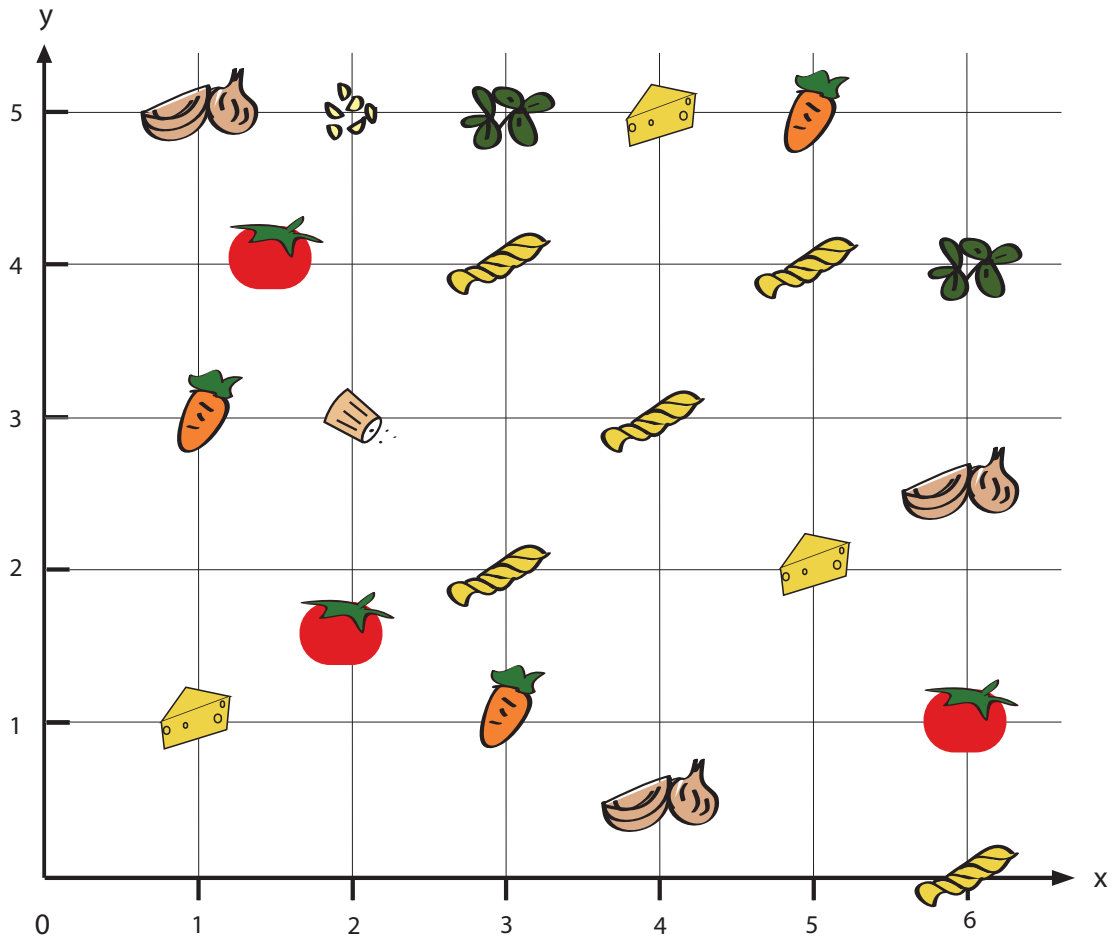
Spell out the mystery dinner by finding the ingredient that corresponds to each set of coordinates below.

Coordinates

1. (5, 5)
2. (3, 4)
3. (2, 3)
4. (6, 1)
5. (3, 2)
6. (1, 5)
7. (4, 3)
8. (6, 4)
9. (2, 5)
10. (4, 5)
11. (5, 4)
12. (3, 5)
13. (6, 0)

Ingredients

= A
= P
= R
= T
= S
= I
= N
= M



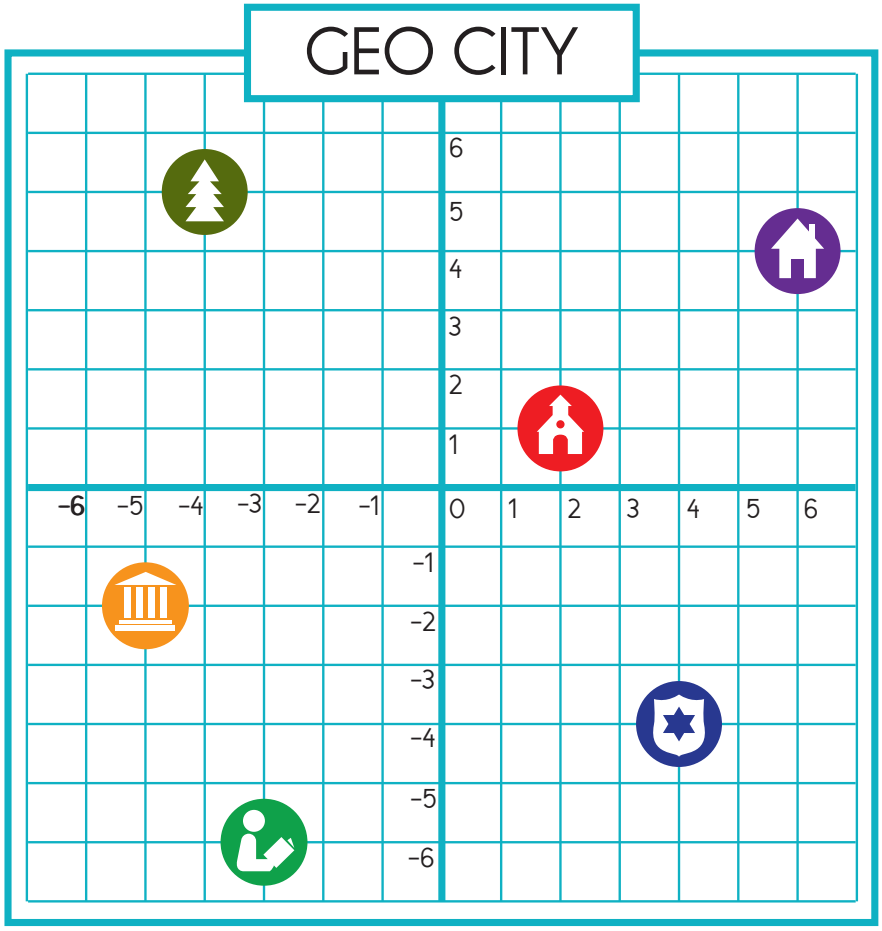
Recipe: PASTA MARINARA

Answer Sheet

Ordered Pairs

Name: _____

A pair of perpendicular lines called axes intersect at 0 for each line. A given point on the plane is located by using an ordered pair of numbers called coordinates. The first number ("x" value) indicates how far to travel from the origin horizontally along the x-axis, and the second number ("y" value) indicates how far to travel vertically along the y-axis.



Key

- School
- City Hall
- Park
- Library
- Police Station
- House

Using the coordinate grid of Geo City, answer the following questions:

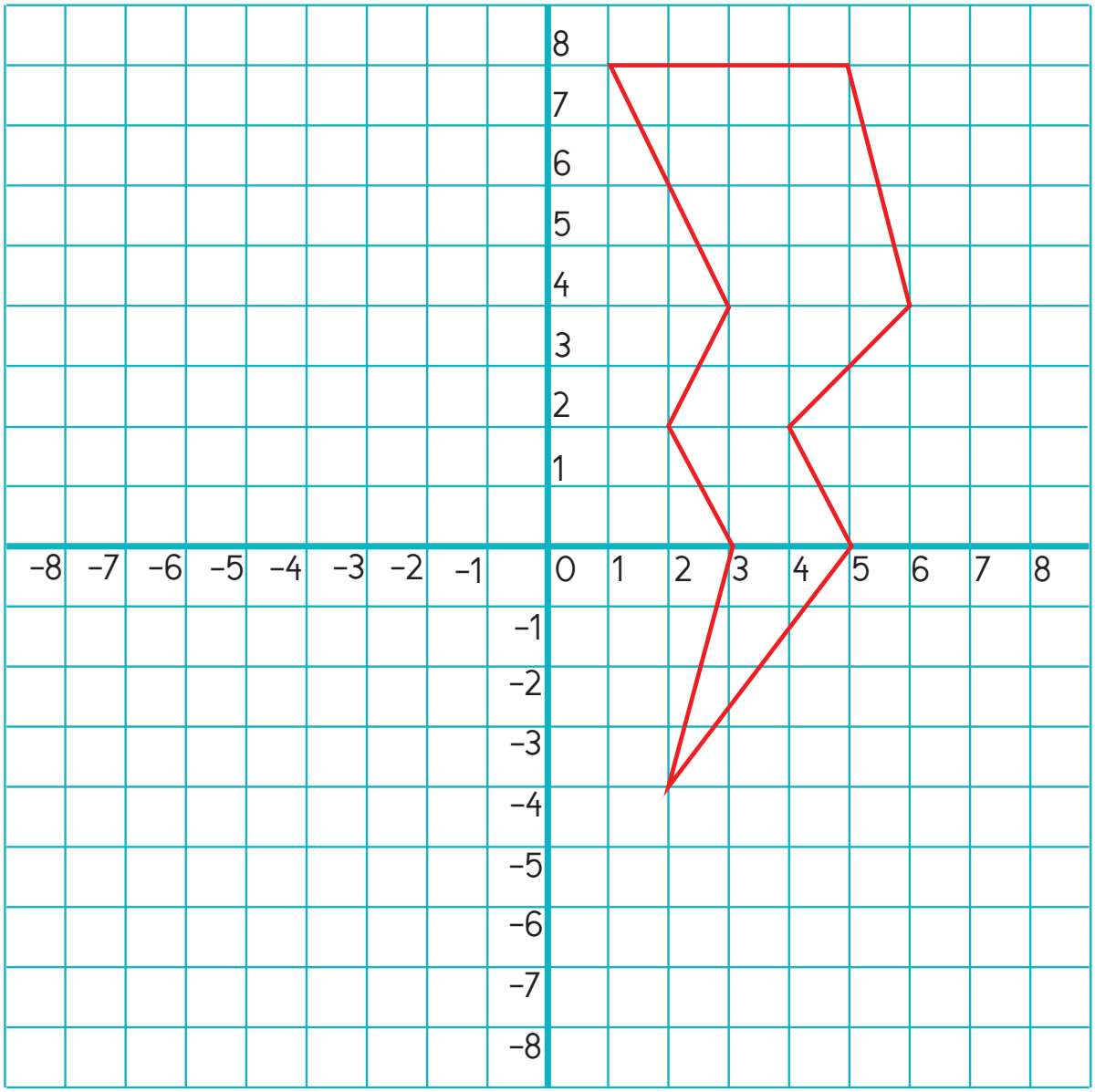
1. What is the ordered pair for the location of the police station? (4, – 4)
2. Which location can be found at coordinates (6, 4)? House
3. Which location can be found at coordinates (–5, –2)? City Hall
4. What is the ordered pair for the location of the school? (2, 1)
5. Which location can be found at coordinates (–4, 5)? Park
6. What is the ordered pair for the location of the library? (–3, –6)

Answer Sheet

Find The Shape!

Name: _____

A pair of perpendicular lines called axes intersect at 0 for each line. A given point on the plane is located by using an ordered pair of numbers called coordinates. The first number ("x" value) indicates how far to travel from the origin horizontally along the x-axis, and the second number ("y" value) indicates how far to travel vertically along the y-axis.



Plot these ordered pairs on the coordinate grid, and connect them with a solid line, in the order they appear.

(1, 8), (5, 8), (6, 4), (4, 2), (5, 0), (2, -4), (3, 0), (2, 2), (3, 4)

What shape do you see? A lightning bolt

Use the extra space to plot your own shape!

Answer Sheet

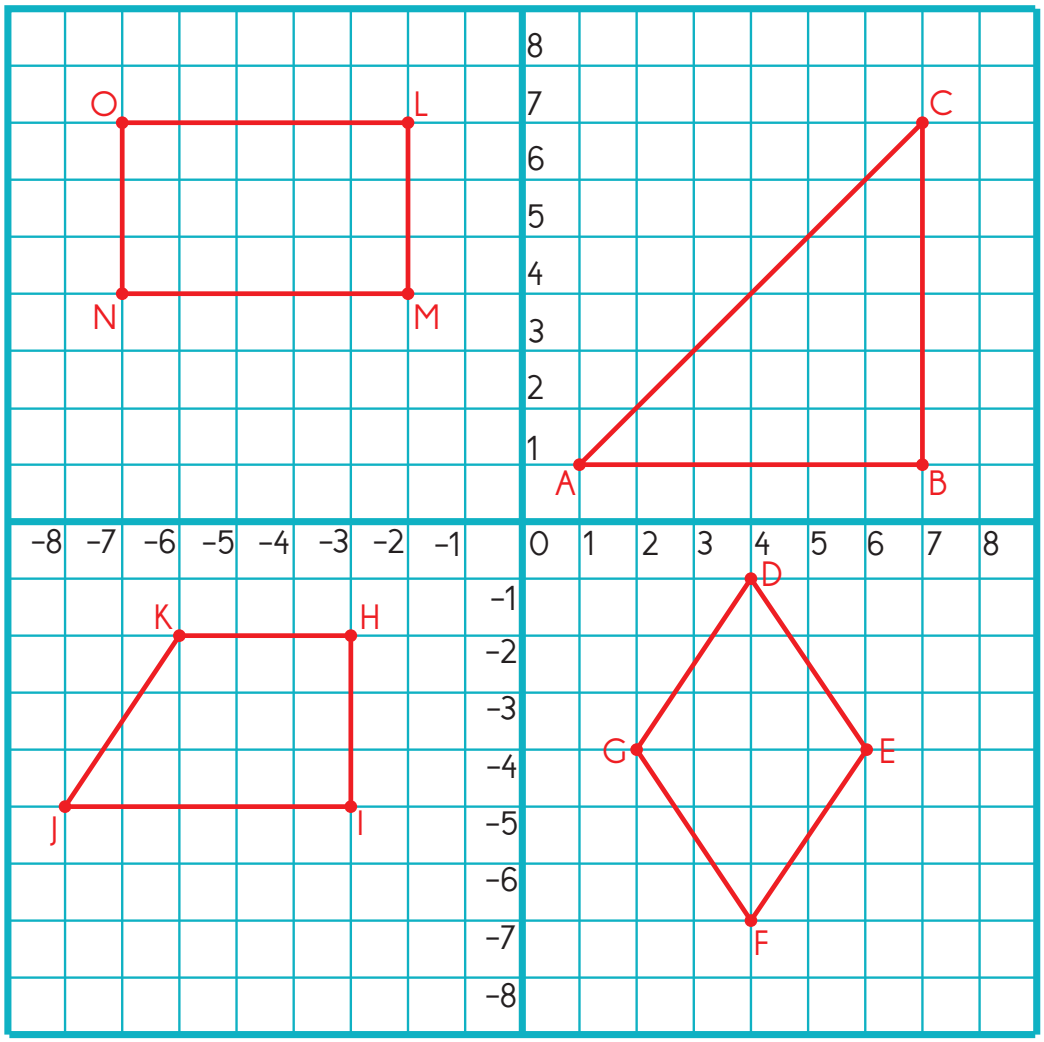
Name: _____

Shapes on a Coordinate Grid

Plot each group of points on the coordinate grid and label with the corresponding letter:

A: (1, 1)	D: (4, -1)	H: (-3, -2)	L: (-2, 7)
B: (7, 1)	E: (6, -4)	I: (-3, -5)	M: (-2, 4)
C: (7, 7)	F: (4, -7)	J: (-8, -5)	N: (-7, 4)
	G: (2, -4)	K: (-6, -2)	O: (-7, 7)

Connect the points in order. Make sure to connect Point C back to Point A, Point D to Point G, Point H to Point K, and Point L to Point O.



1. Which geometric figures are formed?

ABC = Triangle DEFG = Rhombus/Parallelogram HIJK = Trapezoid LMNO = Rectangle

2. Which line segments are perpendicular? Which are parallel?

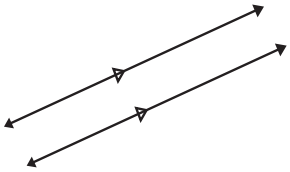
AB ⊥ BC DE || GF KH || JI OL || NM OL ⊥ LM NM ⊥ ON
GD || FE HI ⊥ JI ON || LM LM ⊥ NM ON ⊥ OL
KH ⊥ HI

Answer Sheet

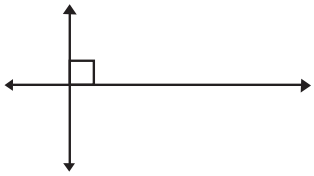
Name: _____

Parallel and Perpendicular Lines

Parallel lines are distinct lines lying in the same plane that never intersect each other.
Perpendicular lines are lines that intersect each other at right angles.

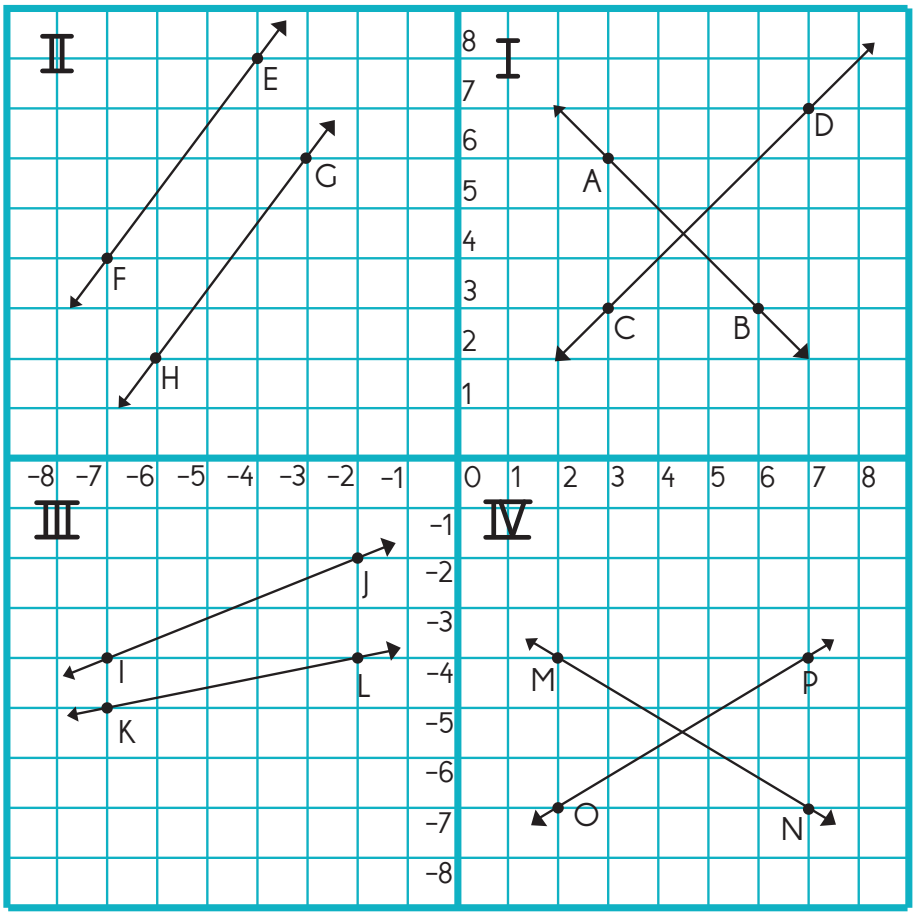


Parallel lines



Perpendicular lines

In each quadrant, determine if the two line segments are parallel, perpendicular, or neither. Explain why.



Quadrant 1: Line AB is perpendicular to Line CD because they cross at right angles

Quadrant 1: Line EF is parallel to Line GH because they will never cross

Quadrant 1: Line IJ is not parallel to Line KL because they will cross

Quadrant 1: Line MN is not perpendicular to Line OP because they don't cross at right angles