

6th Grade TEKS Readiness Focus

TEKS 6.11A *graph points in all four quadrants using ordered pairs of rational numbers.*

Activity Directions:

Items Needed: **Graphing Data on Coordinate Grids** activity

1. Copy the activity for each student.
2. Part A: Students will complete tables, write entries as ordered pairs, and then graph the data. (See below.)
3. Part B: Students will graph to show solutions to provided problems and identify ordered pairs. (See one possible solution to each problem below.)
4. Have students practice questions coded to TEKS 6.11A.

Name _____

Date _____

Graphing Data on Coordinate Grids

Part A: Complete the table(s) based on an observed pattern, if a pattern can be identified. Write table values as coordinate pairs and then graph.

Data Table	Ordered Pairs	Graph												
<table border="1"> <tr><th>x</th><th>y</th></tr> <tr><td>-4</td><td>$\frac{1}{2}$</td></tr> <tr><td>-2</td><td>$1\frac{1}{2}$</td></tr> <tr><td>0</td><td>$2\frac{1}{2}$</td></tr> <tr><td>2</td><td>$3\frac{1}{2}$</td></tr> <tr><td>4</td><td>$4\frac{1}{2}$</td></tr> </table>	x	y	-4	$\frac{1}{2}$	-2	$1\frac{1}{2}$	0	$2\frac{1}{2}$	2	$3\frac{1}{2}$	4	$4\frac{1}{2}$	$\left\{ \left(-4, \frac{1}{2}\right), \left(-2, 1\frac{1}{2}\right), \left(0, 2\frac{1}{2}\right), \left(2, 3\frac{1}{2}\right), \left(4, 4\frac{1}{2}\right) \right\}$	
x	y													
-4	$\frac{1}{2}$													
-2	$1\frac{1}{2}$													
0	$2\frac{1}{2}$													
2	$3\frac{1}{2}$													
4	$4\frac{1}{2}$													
<table border="1"> <tr><th>x</th><th>y</th></tr> <tr><td>-10</td><td>8</td></tr> <tr><td>-5</td><td>4</td></tr> <tr><td>0</td><td>0</td></tr> <tr><td>5</td><td>-4</td></tr> <tr><td>10</td><td>-8</td></tr> </table>	x	y	-10	8	-5	4	0	0	5	-4	10	-8	$\{(-10, 8), (-5, 4), (0, 0), (5, -4), (10, -8)\}$	
x	y													
-10	8													
-5	4													
0	0													
5	-4													
10	-8													
<table border="1"> <tr><th>x</th><th>y</th></tr> <tr><td>-0.25</td><td>0.75</td></tr> <tr><td>-0.75</td><td>-0.25</td></tr> <tr><td>0.25</td><td>-0.5</td></tr> <tr><td>0.5</td><td>0.75</td></tr> <tr><td>0.75</td><td>0.25</td></tr> </table>	x	y	-0.25	0.75	-0.75	-0.25	0.25	-0.5	0.5	0.75	0.75	0.25	$\{(-0.25, 0.75), (-0.75, -0.25), (0.25, -0.5), (0.5, 0.75), (0.75, 0.25)\}$	
x	y													
-0.25	0.75													
-0.75	-0.25													
0.25	-0.5													
0.5	0.75													
0.75	0.25													

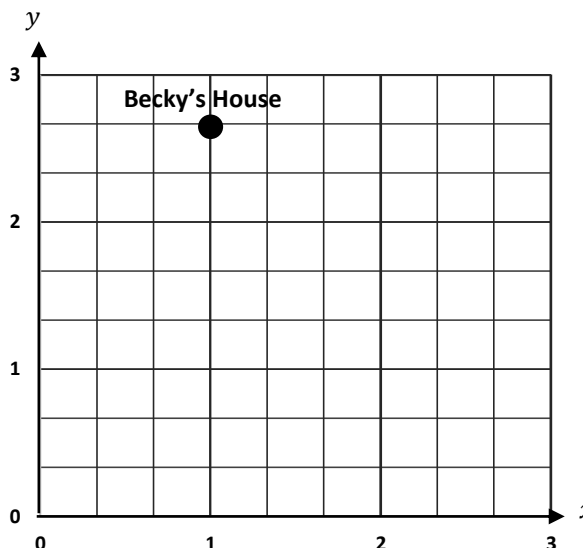
Part B: For each problem presented, graph a solution. Identify at least 4 points in the graphed solution as ordered pairs.

<p>Problem 1: Ana graphed line n. Graph line p on the coordinate grid so that line p is parallel to line n.</p>		<p>Name 4 points on line p, and list the location of each as an ordered pair.</p> <table border="1"> <thead> <tr><th>Point</th><th>Location</th></tr> </thead> <tbody> <tr><td>A</td><td>$(-4, -4)$</td></tr> <tr><td>B</td><td>$(-2, -3)$</td></tr> <tr><td>C</td><td>$(2, -1)$</td></tr> <tr><td>D</td><td>$(4, 0)$</td></tr> </tbody> </table>	Point	Location	A	$(-4, -4)$	B	$(-2, -3)$	C	$(2, -1)$	D	$(4, 0)$
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C	$(2, -1)$											
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<p>Problem 2: Graph a quadrilateral with 2 obtuse angles and 2 acute angles on the coordinate grid. Label the vertices F, G, H and J.</p>		<p>List the location of each vertex as an ordered pair.</p> <table border="1"> <thead> <tr><th>Point</th><th>Location</th></tr> </thead> <tbody> <tr><td>F</td><td>$\left(-1, \frac{3}{4}\right)$</td></tr> <tr><td>G</td><td>$\left(-\frac{1}{2}, -\frac{1}{2}\right)$</td></tr> <tr><td>H</td><td>$\left(\frac{1}{2}, -\frac{1}{2}\right)$</td></tr> <tr><td>J</td><td>$\left(1, \frac{3}{4}\right)$</td></tr> </tbody> </table>	Point	Location	F	$\left(-1, \frac{3}{4}\right)$	G	$\left(-\frac{1}{2}, -\frac{1}{2}\right)$	H	$\left(\frac{1}{2}, -\frac{1}{2}\right)$	J	$\left(1, \frac{3}{4}\right)$
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J	$\left(1, \frac{3}{4}\right)$											
<p>Problem 3: Polygon $ABCD$ is a square. Graph polygon $KLMN$ so that is also a square, but polygon $KLMN$ should have twice the perimeter of polygon $ABCD$.</p>		<p>List the location of each vertex as an ordered pair.</p> <table border="1"> <thead> <tr><th>Point</th><th>Location</th></tr> </thead> <tbody> <tr><td>K</td><td>$(1, 8)$</td></tr> <tr><td>L</td><td>$(1, 2)$</td></tr> <tr><td>M</td><td>$(7, 2)$</td></tr> <tr><td>N</td><td>$(7, 8)$</td></tr> </tbody> </table>	Point	Location	K	$(1, 8)$	L	$(1, 2)$	M	$(7, 2)$	N	$(7, 8)$
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TEKS 6.11A graph points in all four quadrants using ordered pairs of rational numbers.

1. The ordered pairs below represent the homes of Becky's friends. The location of Becky's house is shown on the coordinate grid.

Rachel	$(1\frac{2}{3}, \frac{1}{3})$
Hope	$(2\frac{1}{3}, 1\frac{1}{3})$
Hanna	$(2, 1)$
Sarah	$(\frac{1}{3}, 2\frac{1}{3})$



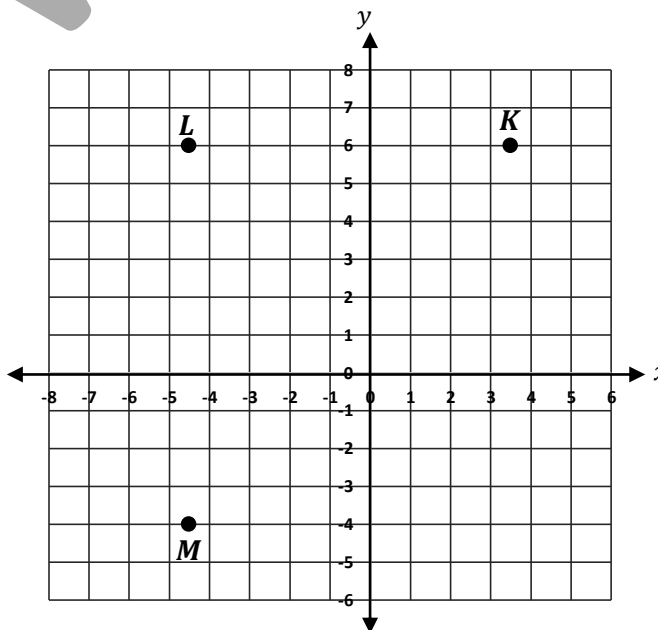
Which friend lives closest to Becky?

- A. Rachel
- B. Hope
- C. Hanna
- D. Sarah

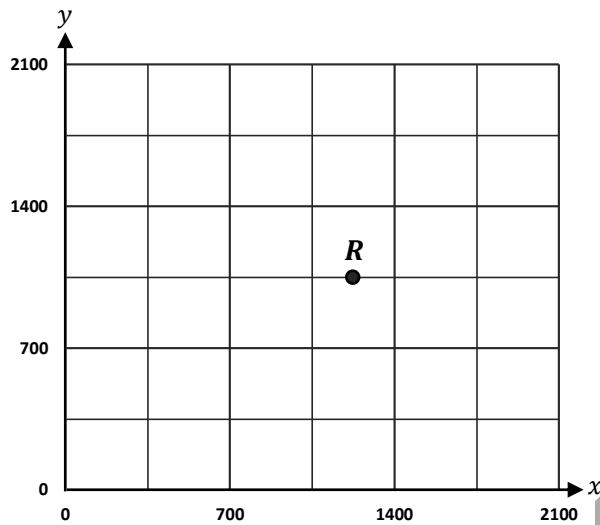
2. Three vertices of rectangle $KLMN$ are graphed on the coordinate grid shown. The fourth vertex of the rectangle will be represented by point N .

Which of the following ordered pairs represent the location of point N ?

- F. $(3\frac{1}{2}, -4)$
- G. $(-4, 3\frac{1}{2})$
- H. $(4\frac{1}{2}, -4)$
- J. $(-3\frac{1}{2}, -4)$



3. Which ordered pair appears to be located 350 units to the left and 700 units down from point R ?



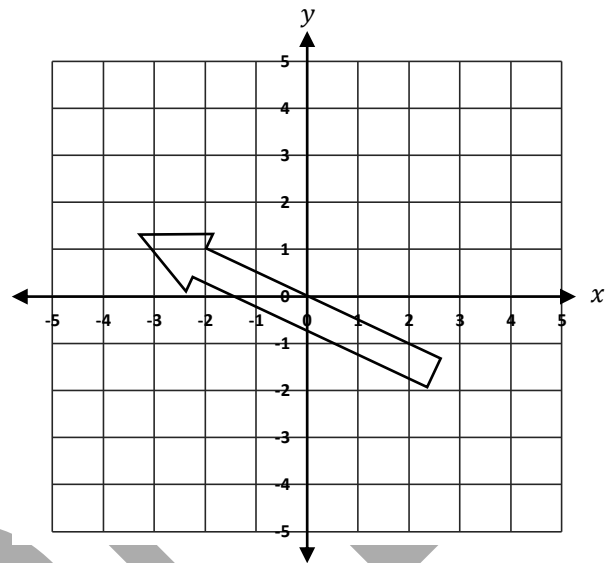
A. (1225, 1050)

C. (875, 350)

B. (650, 1050)

D. (1575, 1750)

4. A picture of an arrow is shown on the coordinate grid below.



Which ordered pair represents a point located within the picture of the arrow?

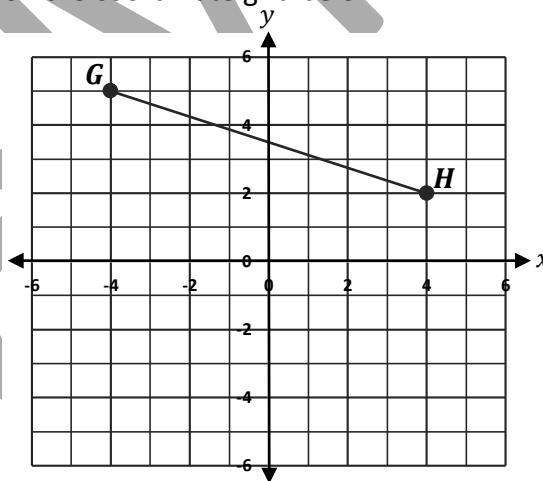
F. (0, -1)

H. (-1, 0)

G. (-2, 2)

J. (3, -1)

5. Line segment GH is graphed on the coordinate grid below.



Which ordered pairs represent the endpoints of a line segment that would be parallel to GH ?

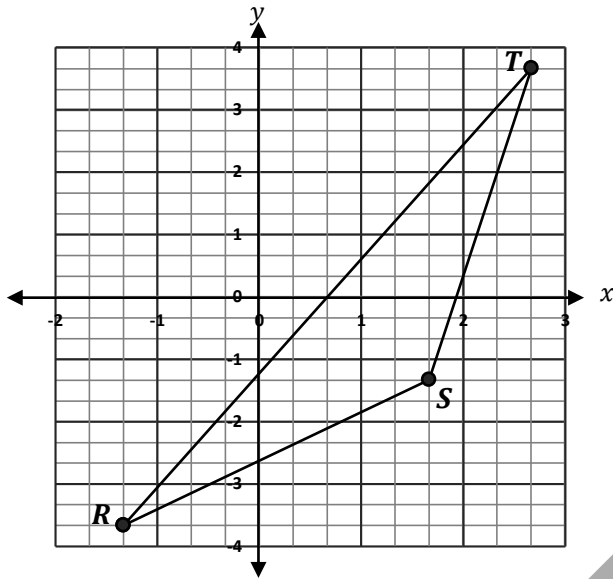
A. (-4, -2) and (4, -3)

C. (-2, 4) and (2, 2)

B. (-3, 2) and (5, -1)

D. (-4, 0) and (4, -1)

6. An obtuse triangle is graphed on the coordinate grid below.



Which ordered pair names a vertex location of $\triangle TRS$?

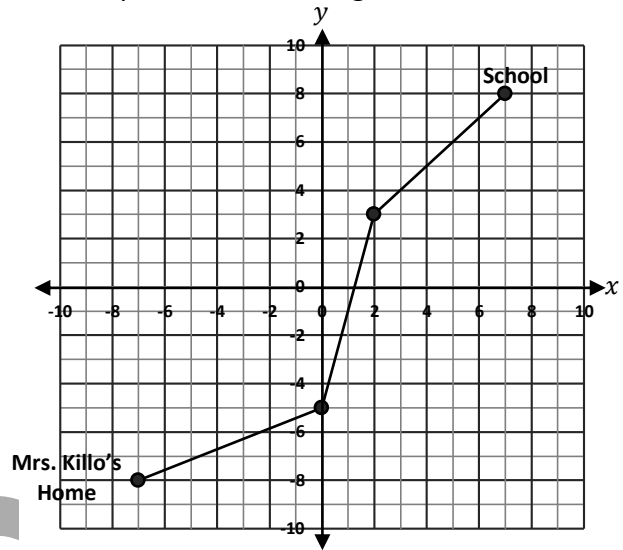
F. $(-2\frac{2}{3}, -3\frac{2}{3})$

H. $(-1\frac{1}{3}, -4\frac{1}{3})$

G. $(1\frac{2}{3}, -1\frac{1}{4})$

J. $(2\frac{2}{3}, 3\frac{2}{3})$

7. Mrs. Killo is a principal at Canyon Intermediate School. The route she takes from her house to school is represented on the grid below.



Which ordered pair represents a point on Mrs. Killo's route?

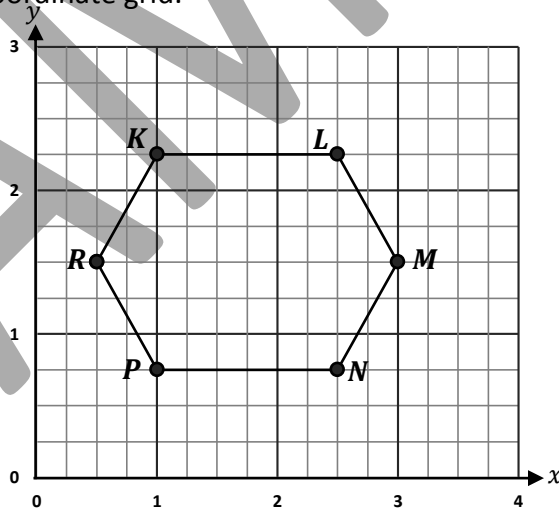
A. $(0, -5)$

C. $(7, 9)$

B. $(2, 2)$

D. $(-7, 8)$

8. A polygon is shown on the coordinate grid.



The list below shows ordered pairs representing the location of five vertices of the polygon.

$(2.5, 2.25), (1, 0.75), (0.5, 1.5), (1, 2.25), (3, 1.5)$

Which vertex is NOT represented by an ordered pair in the list?

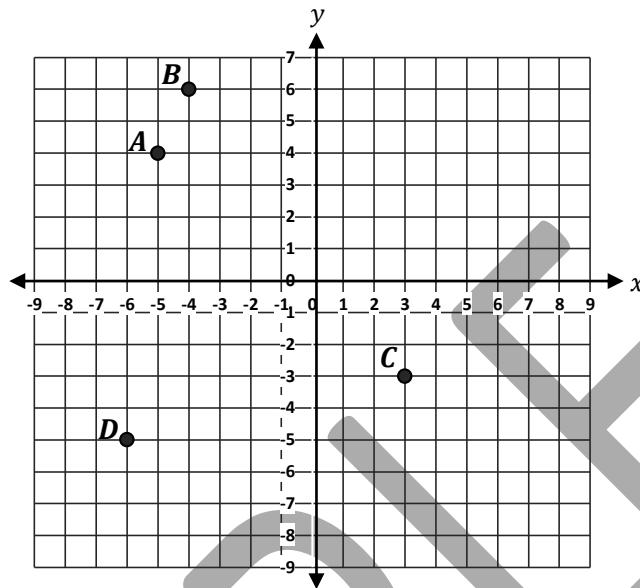
F. Vertex *M*

H. Vertex *P*

G. Vertex *N*

J. Vertex *R*

9. Four points are graphed on the coordinate grid below. Which point has an x -value less than -2 and a y -value greater than 5?



- A. Point A
- B. Point B
- C. Point C
- D. Point D

10. Three vertices of parallelogram $RSTV$ are graphed on the coordinate grid shown. The fourth vertex of the parallelogram will be represented by point V .

Which of the following ordered pairs represent the location of point V ?

- F. $(2, -3)$
- G. $(-3, 3)$
- H. $(3, -3)$
- J. $(1, -3)$

