

PSSA and Keystone Exams
Fall 2015
Item Writing and Handscoring Training Workshops

PSSA, Grade 6 Math

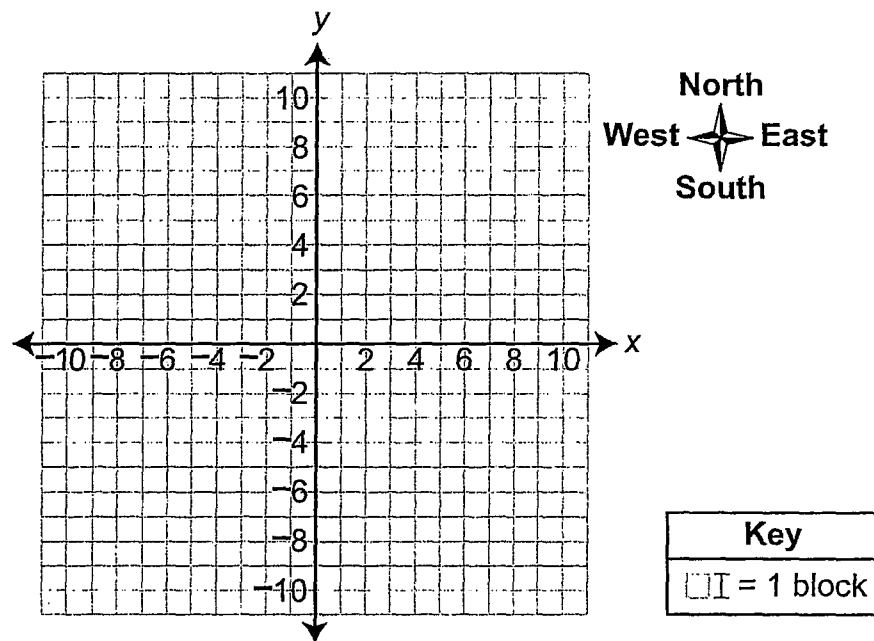
Library and Daniel's House

Handscoring
Anchor Set

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74. The locations of some buildings in a town can be shown on the same coordinate plane. The ordered pair $(-6, 4)$ describes the location of the library. Starting at the library, Daniel walks 10 blocks east and 6 blocks south to his house.

- A. Plot two points on the coordinate plane below that show the locations of the library and Daniel's house. Label the location of the library as point L, and label the location of Daniel's house as point D.



74. Continued. Please refer to the previous page for task explanation.

Katy walks from the library to her house. She walks only one direction in a straight line along what are shown as grid lines. The distance Katy walks from the library to her house is $\frac{1}{4}$ the distance Daniel walks from the library to his house.

- B.** Explain why this information describes four possible locations of Katy's house. As part of the explanation, determine the distance, in blocks, Katy walks from the library to her house and the ordered pairs that describe the four possible locations of Katy's house. Show or explain all your work.

GRADE 6 MATH

Library and Daniel's House

Assessment Anchor this item will be reported under:

M06.A-N.3 Apply and extend previous understandings of numbers to the system of rational numbers.

Specific Anchor Descriptors addressed by this item:

M06.A-N.3.2 Understand ordering and absolute value of rational numbers.

M06.A-N.3.1 Understand that positive and negative numbers are used together to describe quantities having opposite directions or values and locations on the number line and coordinate plane.

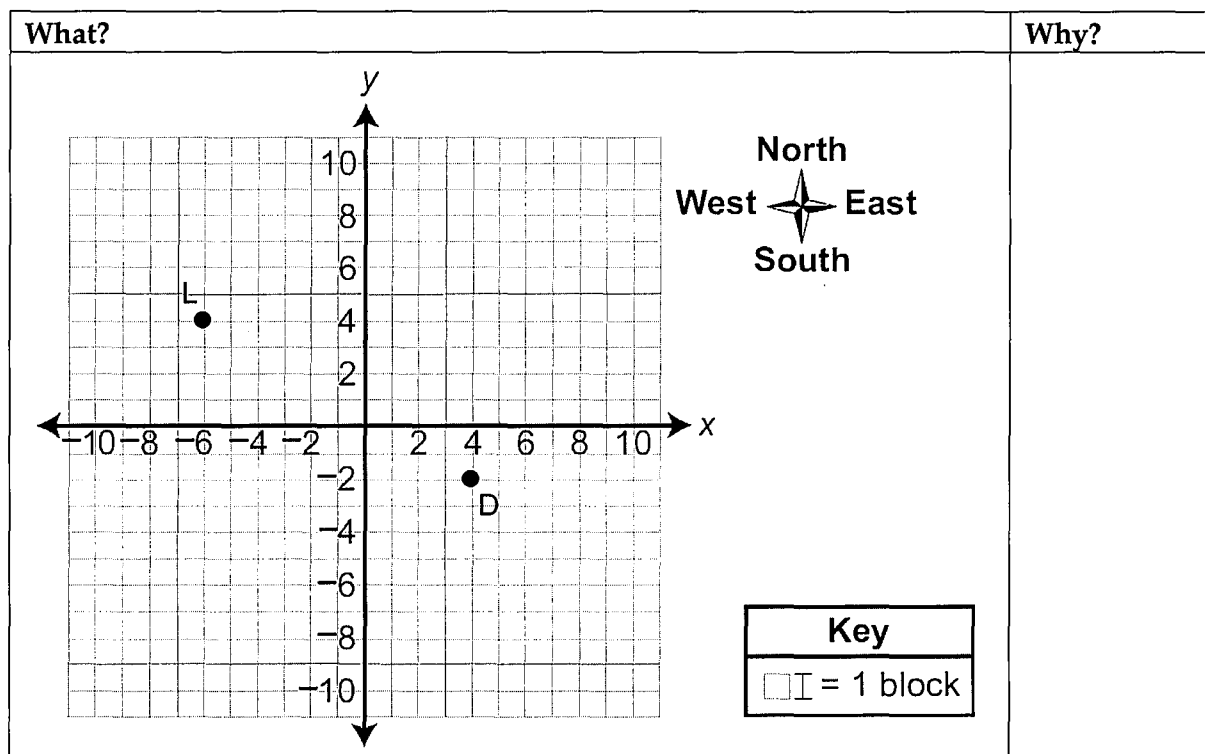
Scoring Guide:

Score	In this item, the student –
4	Demonstrates a thorough understanding of how to apply and extend previous understandings of numbers to the system of rational numbers by correctly solving problems and clearly explaining procedures.
3	Demonstrates a general understanding of how to apply and extend previous understandings of numbers to the system of rational numbers by correctly solving problems and clearly explaining procedures with only minor errors or omissions.
2	Demonstrates a partial understanding of how to apply and extend previous understandings of numbers to the system of rational numbers by correctly performing a significant portion of the required task.
1	Demonstrates minimal understanding of how to apply and extend previous understandings of numbers to the system of rational numbers.
0	The response has no correct answer and insufficient evidence to demonstrate any understanding of the mathematical concepts and procedures as required by the task. Response may show only information copied from the question.
Non-scorables	B – Blank, entirely erased or written refusal to respond F – Foreign Language K – Off-task U – Unreadable

Top Scoring Student Response And Training Notes:

Score	Description
4	Student earns 4 points.
3	Student earns 3.0 – 3.5 points.
2	Student earns 2.0 – 2.5 points.
1	Student earns 0.5 - 1.5 points. OR Student demonstrates minimal understanding of how to apply and extend previous understandings of numbers to the system of rational numbers.
0	Response is incorrect or contains some correct work that is irrelevant to the skill or concept being measured.

A.



(1 score point)

½ point for each correctly plotted and labeled point

OR ½ point if both points are correctly plotted but not labeled

B.

What?	Why?
4 (blocks)	Sample Explanation and Support:
(-2, 4)	Daniel walked 16 blocks, since $10 + 6 = 16$. So Katy walked a distance of 4
(-6, 0)	blocks, since $\frac{1}{4}(16) = 4$. Katy's house could be located 4 blocks east of the
(-10, 4)	library as (-2, 4) or 4 blocks west of the library at (-10, 4) or 4 blocks north of
(-6, 8)	the library at (-6, 8) or 4 blocks south of the library at (-6, 0).

(3 score points)

1 point for correct distance

1 point for correct ordered pairs (can be based on incorrect distance but correctly plotted L, OR incorrectly plotted L with a correct distance).

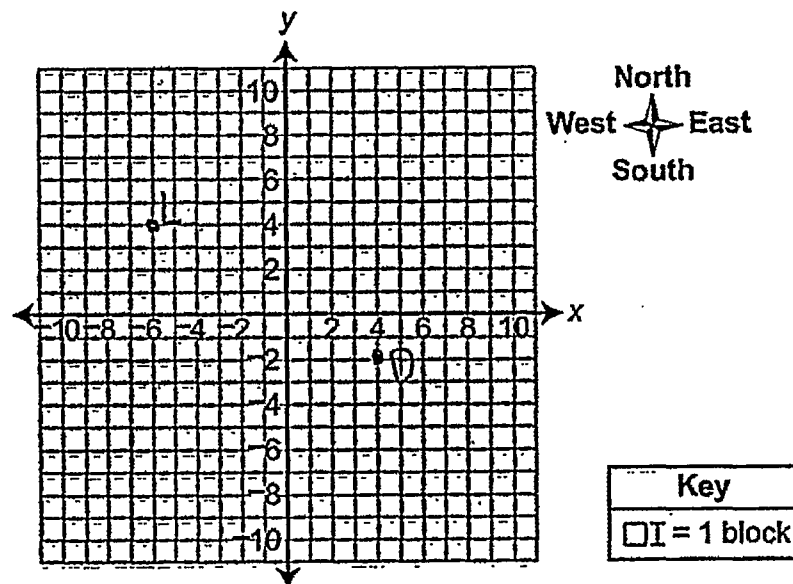
OR ½ point for 2 or 3 correct ordered pairs

1 point for complete support

OR ½ point for correct but incomplete support

74. The locations of some buildings in a town can be shown on the same coordinate plane. The ordered pair $(-6, 4)$ describes the location of the library. Starting at the library, Daniel walks 10 blocks east and 6 blocks south to his house.

- A. Plot two points on the coordinate plane below that show the locations of the library and Daniel's house. Label the location of the library as point L, and label the location of Daniel's house as point D.



4

A. 1 point – both points correctly plotted and labeled.

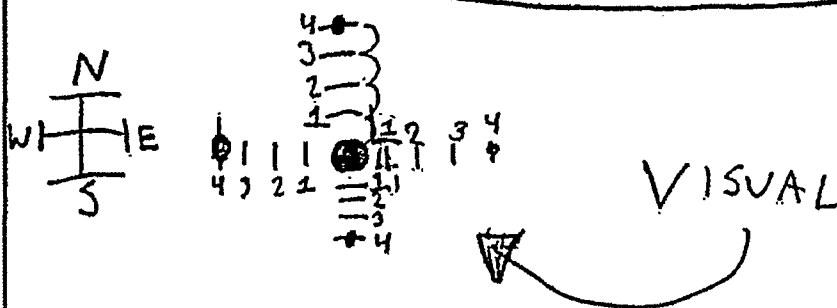
B. 3 points – correct distance, all correct ordered pairs, and complete support (“ $16 \div 4$ ” or equivalent to support the distance Katy walks and “north, south, east, west” or equivalent to support the possible locations of Katy’s house). [Note that $10 + 6 = 16$ does not have to be shown. This may be considered mental math.]

74. **Continued.** Please refer to the previous page for task explanation.

Katy walks from the library to her house. She walks only one direction in a straight line along what are shown as grid lines. The distance Katy walks from the library to her house is $\frac{1}{4}$ the distance Daniel walks from the library to his house.

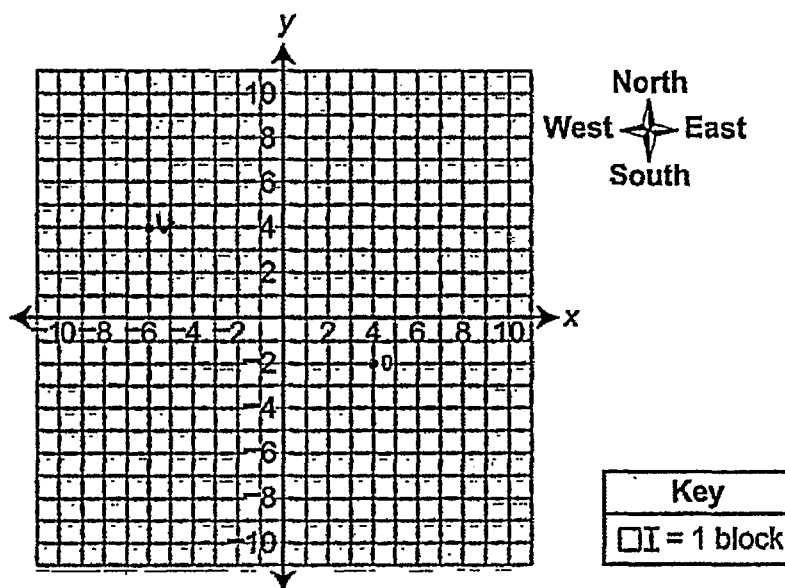
- B. Explain why this information describes four possible locations of Katy's house. As part of the explanation, determine the distance, in blocks, Katy walks from the library to her house and the ordered pairs that describe the four possible locations of Katy's house. Show or explain all your work.

Since the only information given is the distance of her house (from the library) and the fact that she walks in a straight line, it can only be in 4 different places. This is because of the four cardinal directions: North, South, East, and West. We know that Daniel walks 16 blocks to get to his house and Katy walks $\frac{1}{4}$ that amount. Because $16 \times \frac{1}{4} = 4$, Katy walks 4 blocks to get to her house. The possible locations are $(-6, 8)$; $(-6, 0)$; $(-10, 4)$; or $(-2, 4)$.



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 B. 3 points – correct distance, all correct ordered pairs, and complete support.

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- B. Explain why this information describes four possible locations of Katy's house. As part of the explanation, determine the distance, in blocks, Katy walks from the library to her house and the ordered pairs that describe the four possible locations of Katy's house. Show or explain all your work. The four locations are

$(-6, 8)$, $(-6, 0)$, $(-2, 4)$, and $(-10, 4)$. I know this because Katie only has to walk four blocks. There can be four locations because she can live North, South, West, or East of the library.

$$\begin{array}{r} 10 \\ \times 6 \\ \hline 16 \end{array}$$

$$\begin{array}{r} 4 \\ 4 \overline{)16} \\ \underline{12} \\ 4 \end{array}$$

$(-6, 8)$

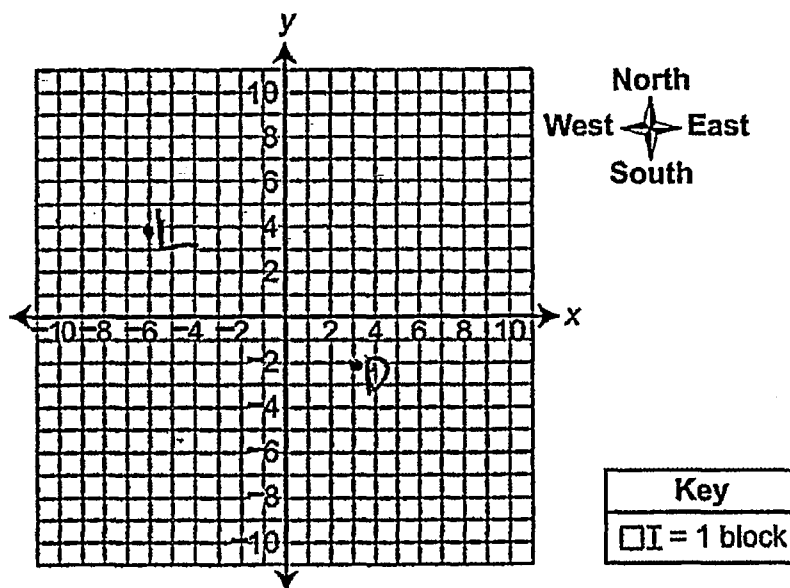
$(-6, 0)$

$(-2, 4)$

$(-10, 4)$

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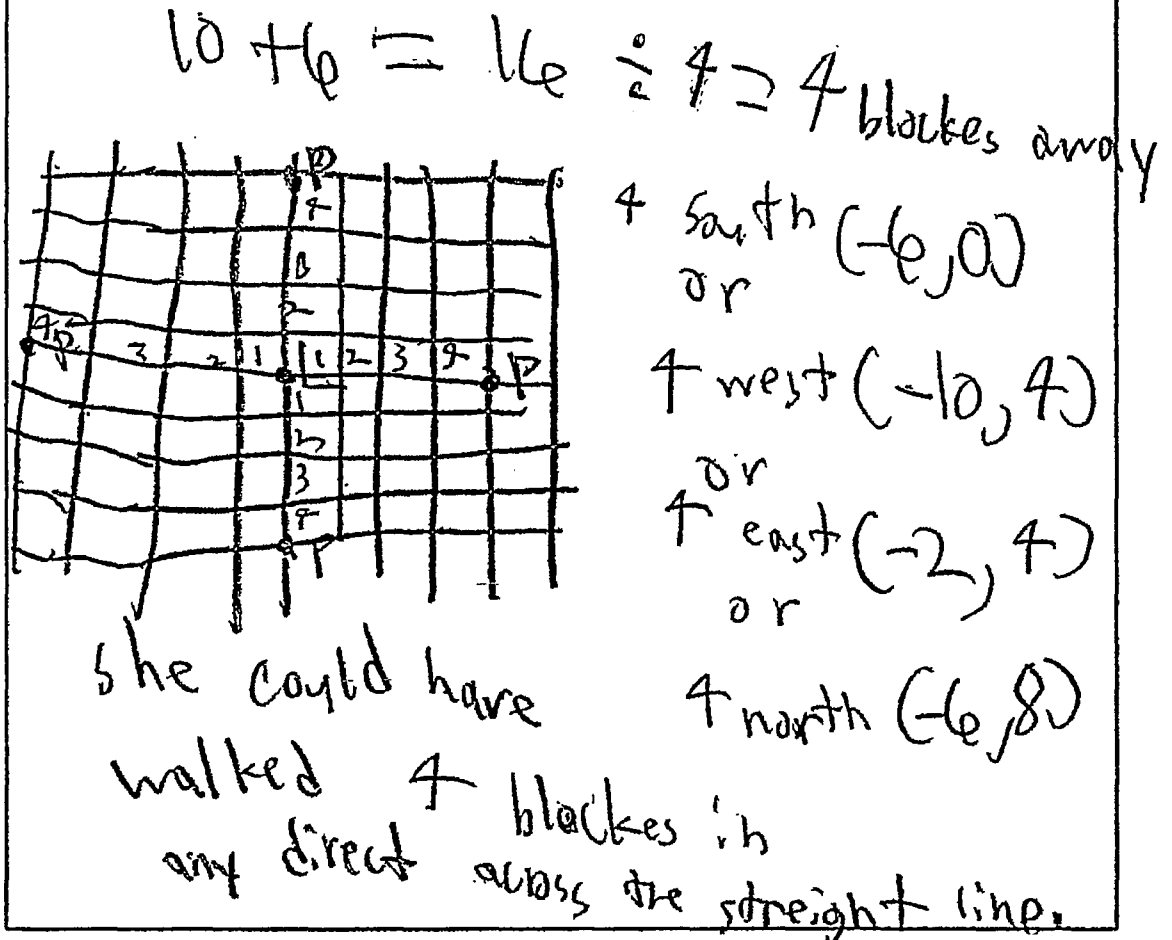
3

- A. 0.5 point – one point correctly plotted and labeled (point D is plotted incorrectly).
B. 2.5 points – correct distance, all correct ordered pairs, correct but incomplete support (run-on equation cannot receive full credit).

74. *Continued.* Please refer to the previous page for task explanation.

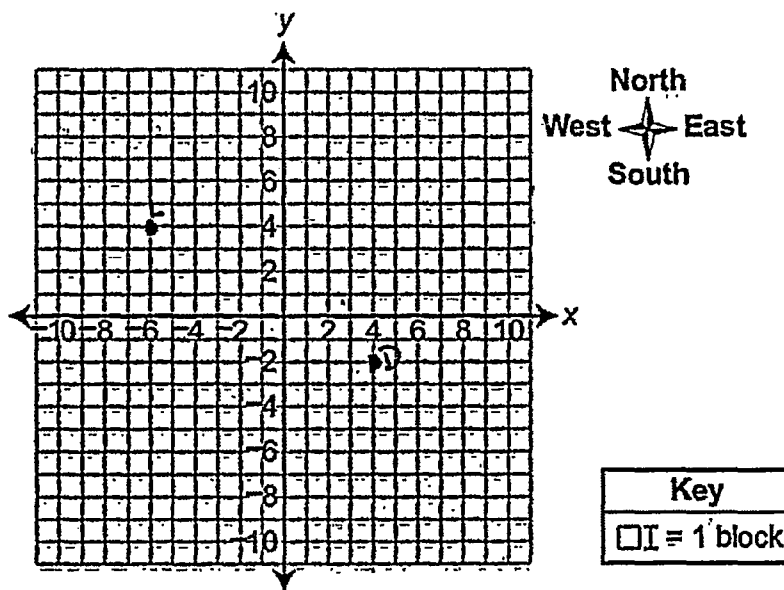
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- A. Plot two points on the coordinate plane below that show the locations of the library and Daniel's house. Label the location of the library as point L, and label the location of Daniel's house as point D.



3

- A. 1 point – both points correctly plotted and labeled.
 B. 2 points – correct distance and complete support; no ordered pairs are given.

74. *Continued.* Please refer to the previous page for task explanation.

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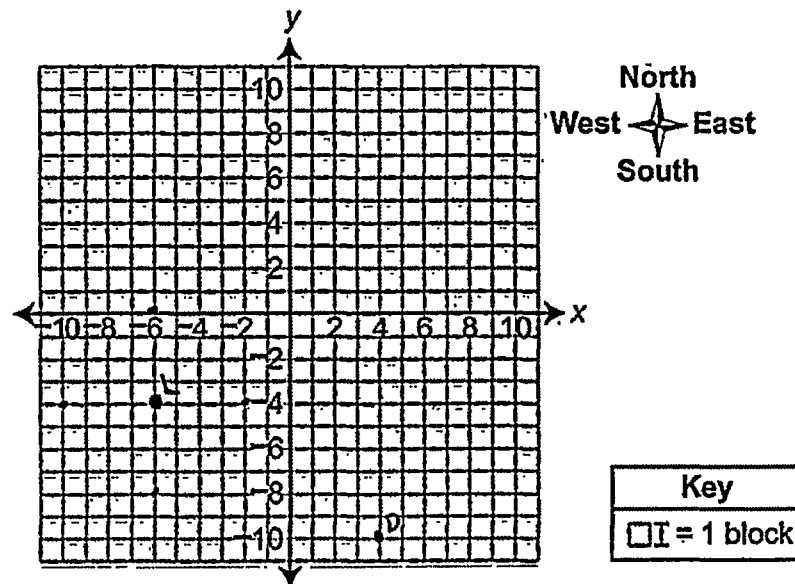
- B. Explain why this information describes four possible locations of Katy's house. As part of the explanation, determine the distance, in blocks, Katy walks from the library to her house and the ordered pairs that describe the four possible locations of Katy's house. Show or explain all your work.

Because it doesn't say which way she goes (North, East, South, or West). Also
 $16 \times \frac{1}{4} = 4$ ($16 \times 25 = 4$) and there is room on the map to go 4 blocks in all directions.

Hello Mr. Official.

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- 3 A. 0 points – both points plotted incorrectly. Note that there is no credit for point D plotted correctly in relation to an incorrectly plotted point L.
 B. 3 points – correct distance, all correct ordered pairs based on incorrect location of point L $(-6, -4)$, complete support.

74. **Continued.** Please refer to the previous page for task explanation.

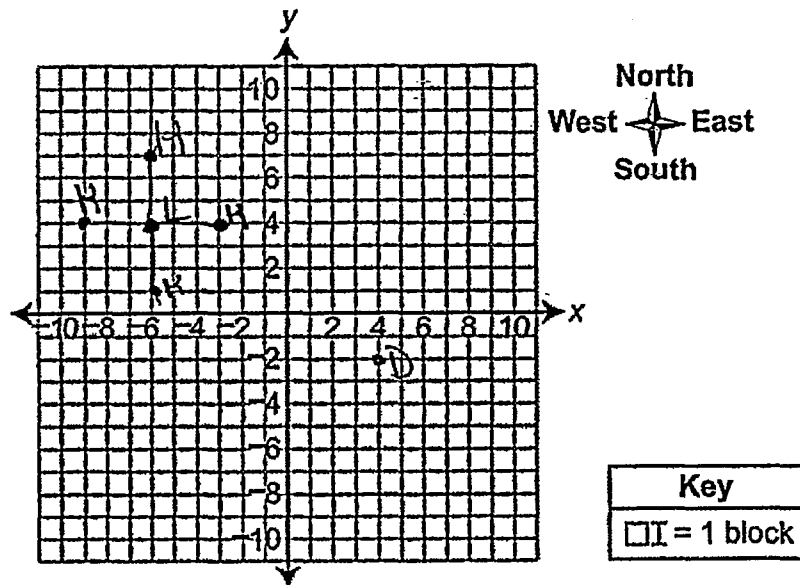
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- B. Explain why this information describes four possible locations of Katy's house. As part of the explanation, determine the distance, in blocks, Katy walks from the library to her house and the ordered pairs that describe the four possible locations of Katy's house. Show or explain all your work.

This information describes four possible locations of Katy's house because her house could be north, south, east, or west of the library. The distance that Katy has to walk to her house is four blocks. Daniel walks 16 blocks from the library to his house and $\frac{1}{4}$ of 16 is four. Katy could possibly live at $(-6, 0)$, $(-2, -4)$, $(-6, -8)$, or $(-10, -4)$.

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- A. Plot two points on the coordinate plane below that show the locations of the library and Daniel's house. Label the location of the library as point L, and label the location of Daniel's house as point D.



- 2 A. 1 point – both points correctly plotted and labeled. The additional “Ks” plotted and labeled are in reference to Katy’s house, so there is no penalty here even if incorrect.
B. 1.5 points – incorrect distance, all correct ordered pairs based on the incorrect distance, correct but incomplete support (does not show or explain how to find the number of blocks).

74. *Continued.* Please refer to the previous page for task explanation.

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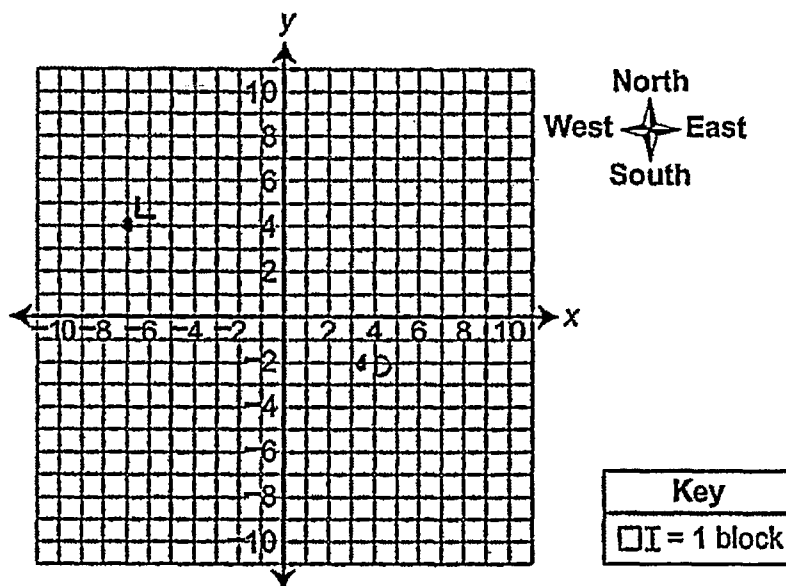
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There are four possible locations of Katy's house because there is no direction on which way she walked. She could have walked north, south, east, or west. She walks 3 blocks.

$(-6, 7)$ $(-3, 4)$ $(-9, 4)$ $(-6, 1)$

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2

- A. 0 points – both points incorrectly plotted.
 B. 2 points – correct distance, 3 of 4 correct pairs [based on incorrectly plotted point L; $(-3, 0)$ is incorrect], correct but incomplete support (missing the four directions).

74. *Continued.* Please refer to the previous page for task explanation.

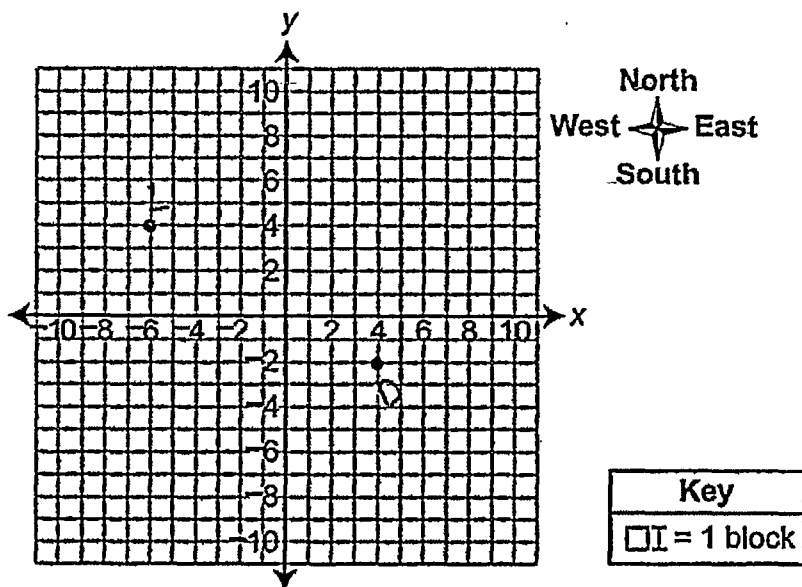
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- B. Explain why this information describes four possible locations of Katy's house. As part of the explanation, determine the distance, in blocks, Katy walks from the library to her house and the ordered pairs that describe the four possible locations of Katy's house. Show or explain all your work.

Why this information describes the four possible locations of Katy's house is that since Daniel walked 16 blocks $\frac{1}{4}$ of that is 4 blocks. Then I tried to find as many possible ways you could walk 4 blocks in a straight line and I only found four. Those ordered pairs are $(-7, 0)$ $(-3, 0)$ $(-7, 8)$ and $(-3, 4)$. That is why the information describes the four possible locations of Kate's house and how I found them.

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- 1 A. 1 point – both points correctly plotted and labeled.
B. 0.5 point – correct but incomplete support only (missing support for distance); no distance or ordered pairs are given.

74. **Continued.** Please refer to the previous page for task explanation.

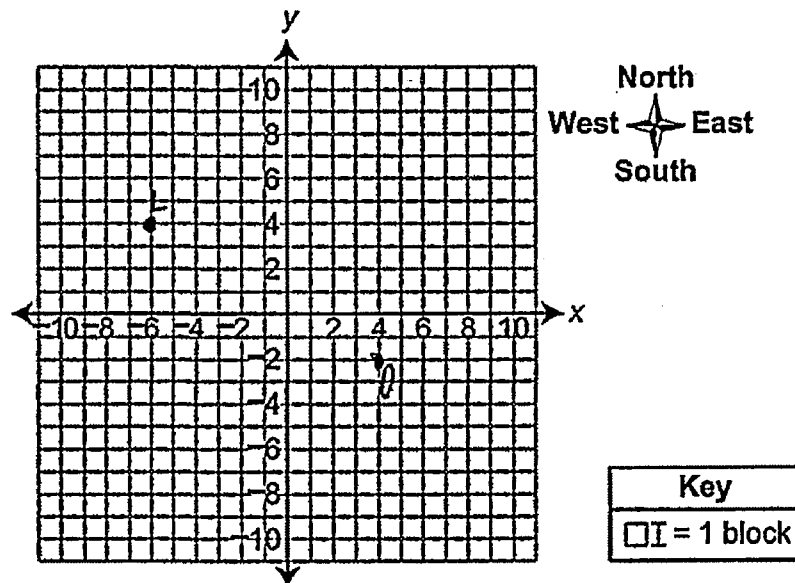
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Katy can walk four different ways but still only walking $\frac{1}{4}$ of what Daniel walked. She can because she can go North, East, West, or South and still go in a straight line and walk $\frac{1}{4}$ of Daniel's walk. Those are the 4 ways and why she can each way.

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- 1 A. 1 point – both points correctly plotted and labeled.
B. 0.5 point – correct but incomplete support (3 of the 4 directions from the library is sufficient for incomplete support; missing support for distance); no distance is given and the ordered pairs are all incorrect.

74. **Continued.** Please refer to the previous page for task explanation.

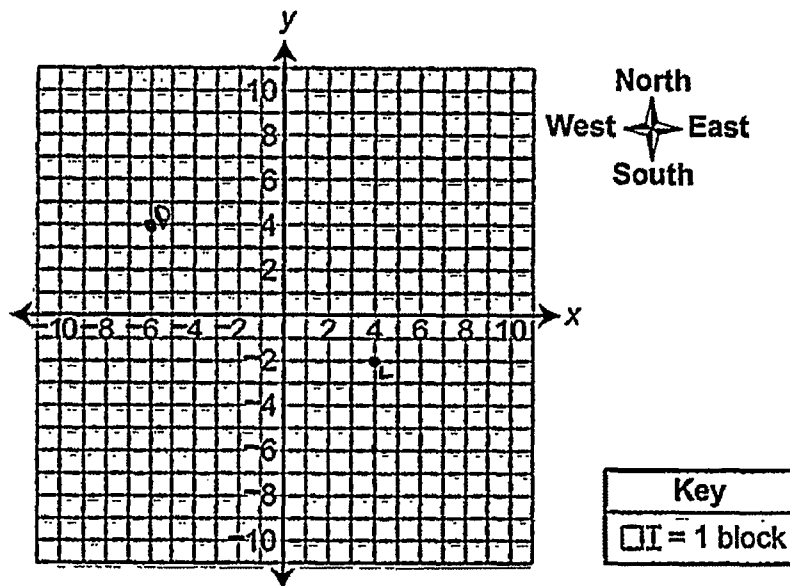
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This information describes four possible locations because it doesn't say to walk East, South, or North. It just says walk $\frac{1}{4}$ the distance Daniel walks from the library to his house. She could walk to (2,4) (-6,-2) (-1,2) or (1,2).

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- A. Plot two points on the coordinate plane below that show the locations of the library and Daniel's house. Label the location of the library as point L, and label the location of Daniel's house as point D.



- 1 A. 0.5 point – both points correctly plotted, but labels are reversed.
B. 0 points – nothing correct.

74. *Continued.* Please refer to the previous page for task explanation.

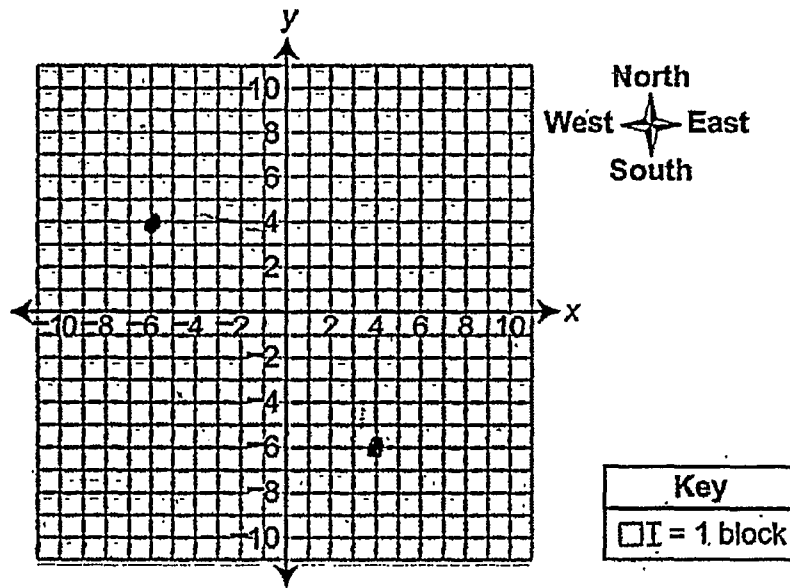
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Katy could be in the negative region or positive region

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- 0 A. 0 points – no credit for only one point correctly plotted unless it is also correctly labeled. Note that $\frac{1}{2}$ point total is given if *both* points are in the correct location but not labeled.
- B. 0 points – incorrect distance; no ordered pairs or support given.

74. *Continued.* Please refer to the previous page for task explanation.

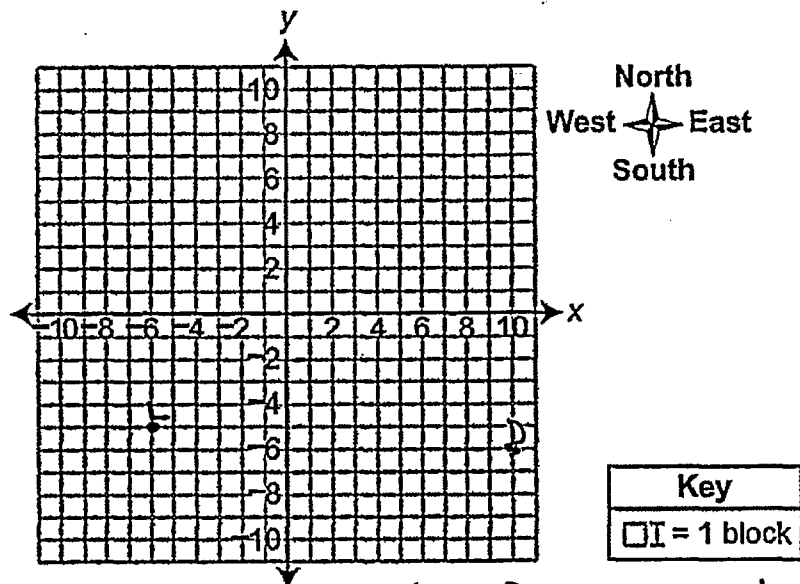
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you have to walk five
blocks

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The point at $(10, -6)$ shows where Daniel's house is. Over 10, down 6. And it also shows where the library is point L $(-6, 4)$. And as you see the key shows you how many blocks down and what one block represents.

0

- A. 0 points – both points incorrectly plotted.
B. 0 points – no distance, no ordered pairs, incorrect support.

74. *Continued.* Please refer to the previous page for task explanation.

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It describes four possible locations to her house because she uses only $\frac{1}{4}$ and she walks in a straight line. She could use four ways; as shown in the denominator and if she used two of them she would use 50% of her ways. If she had used $\frac{3}{4}$ that is equivalent to 75%. And if she used all that would be $\frac{4}{4}$ which is equal to 100%. Think of a "block" like a square. $\begin{array}{c} 4 \\ \square \\ 4 \end{array}$ There are four different sides. That means she can get to her house four different ways. $\begin{array}{c} 4 \text{ ways} \\ \square \\ 4 \end{array}$

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PSSA, Grade 6 Math

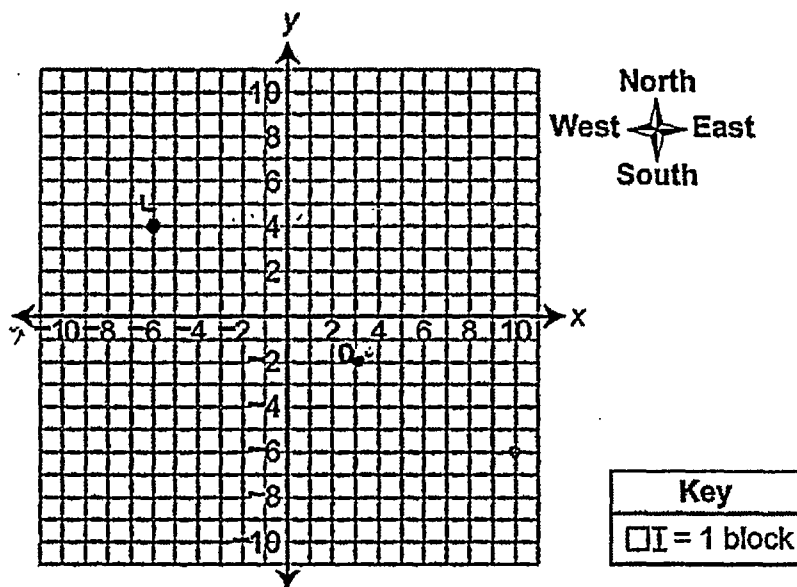
Library and Daniel's House

Handscoring
Training Set 1

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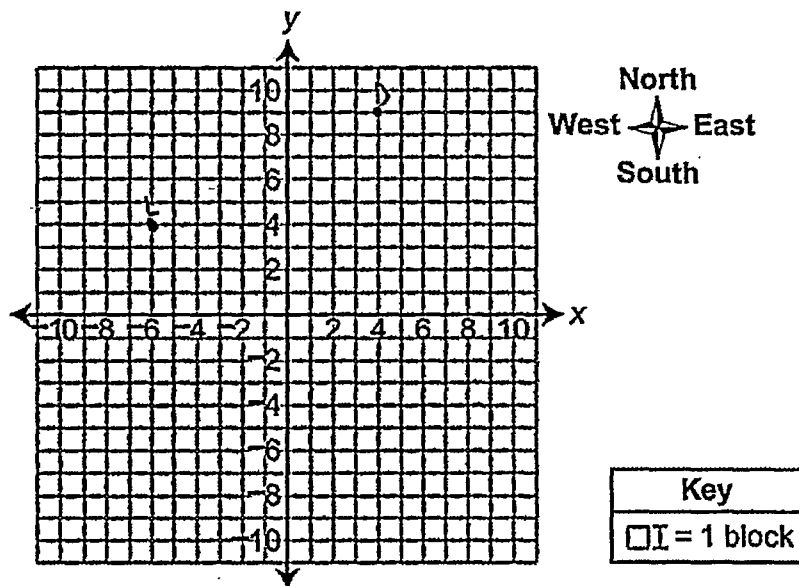
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- B. Explain why this information describes four possible locations of Katy's house. As part of the explanation, determine the distance, in blocks, Katy walks from the library to her house and the ordered pairs that describe the four possible locations of Katy's house. Show or explain all your work.

The information describes four possible ways for Katy to live because she can live north, east, south, or west. In my opinion I think Katy's house is seven blocks away from the library.

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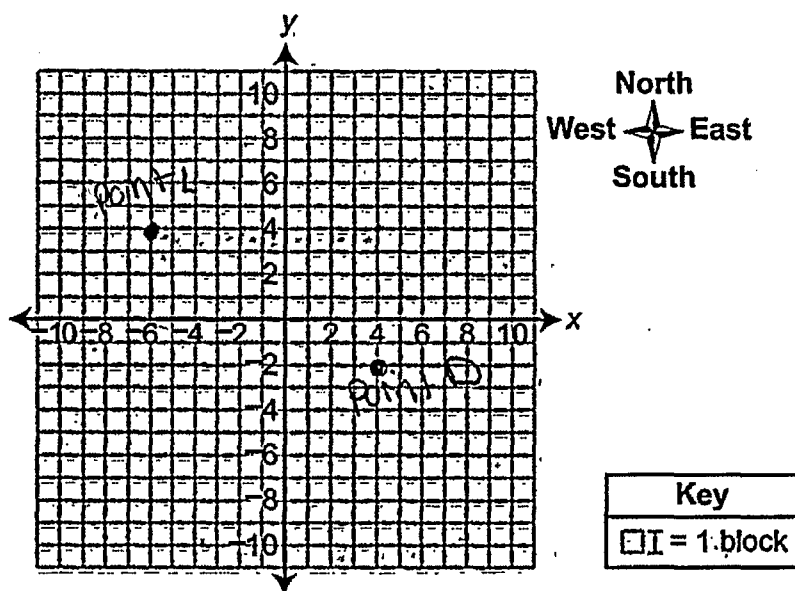
This information describes four possible locations because there are only 4 spots that are 4 blocks in a straight line from point L.

The ordered pairs are $(-2, 4)$, $(-6, 0)$, $(-10, 4)$, and $(-6, 8)$.

The distance, in blocks, is 4 blocks.

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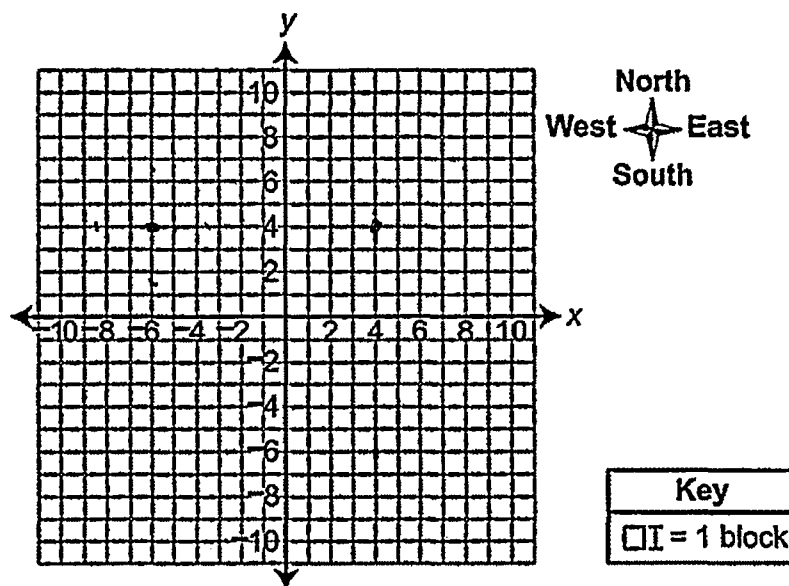
- B. Explain why this information describes four possible locations of Katy's house. As part of the explanation, determine the distance, in blocks, Katy walks from the library to her house and the ordered pairs that describe the four possible locations of Katy's house. Show or explain all your work.

There can be four possible locations because it says in a straight line, and $\frac{1}{4}$ of 16 is 4 so she can walk N, E, S, or W. She would walk 4 blocks: $(-6, 0)$,

$(0, 8)$, $(-10, 4)$, and $(-2, 4)$. So to find these locations I went four blocks straight to the North, four blocks straight to the East, four blocks straight to the South, and four blocks straight to the West.

74. The locations of some buildings in a town can be shown on the same coordinate plane. The ordered pair $(-6, 4)$ describes the location of the library. Starting at the library, Daniel walks 10 blocks east and 6 blocks south to his house.

- A. Plot two points on the coordinate plane below that show the locations of the library and Daniel's house. Label the location of the library as point L, and label the location of Daniel's house as point D.



74. *Continued.* Please refer to the previous page for task explanation.

Katy walks from the library to her house. She walks only one direction in a straight line along what are shown as grid lines. The distance Katy walks from the library to her house is $\frac{1}{4}$ the distance Daniel walks from the library to his house.

- B. Explain why this information describes four possible locations of Katy's house. As part of the explanation, determine the distance, in blocks, Katy walks from the library to her house and the ordered pairs that describe the four possible locations of Katy's house. Show or explain all your work.

$(-6, 6.5)$

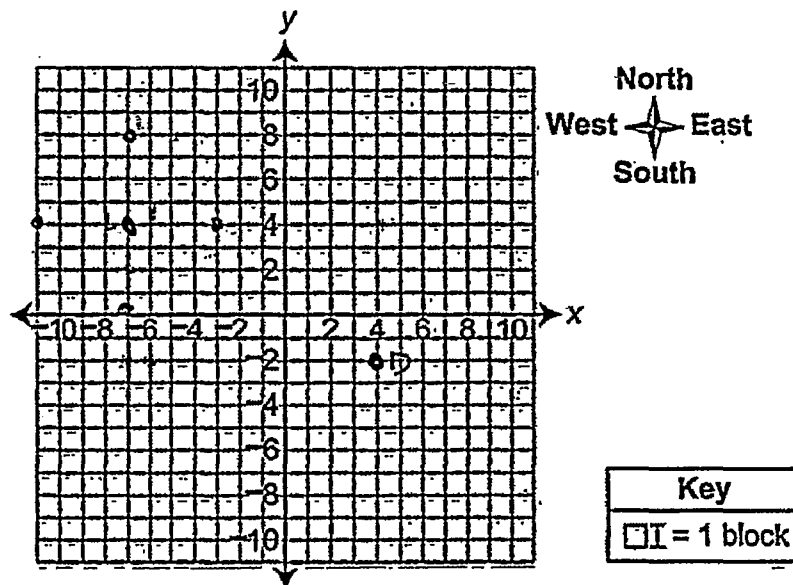
$(-6, 1.5)$

$(-8, 4.5)$

$(-4, 4.5)$

74. The locations of some buildings in a town can be shown on the same coordinate plane. The ordered pair $(-6, 4)$ describes the location of the library. Starting at the library, Daniel walks 10 blocks east and 6 blocks south to his house.

- A. Plot two points on the coordinate plane below that show the locations of the library and Daniel's house. Label the location of the library as point L, and label the location of Daniel's house as point D.



74. *Continued.* Please refer to the previous page for task explanation.

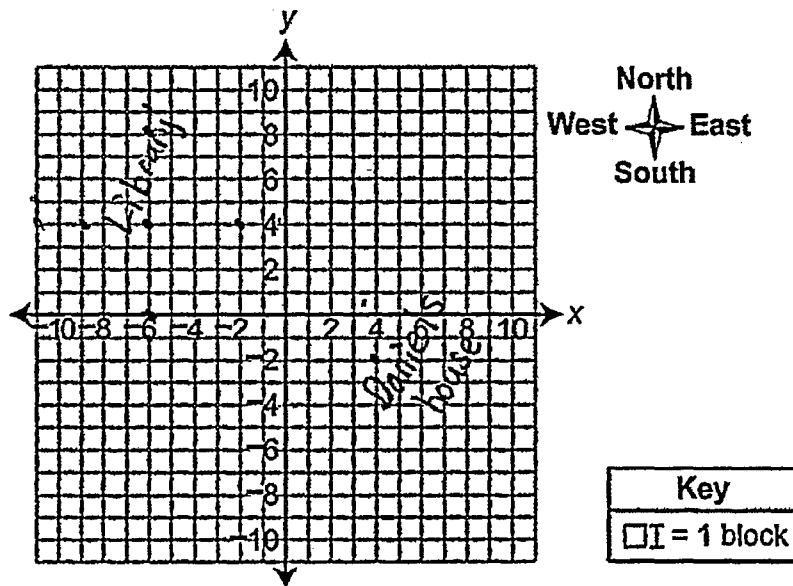
Katy walks from the library to her house. She walks only one direction in a straight line along what are shown as grid lines. The distance Katy walks from the library to her house is $\frac{1}{4}$ the distance Daniel walks from the library to his house.

- B. Explain why this information describes four possible locations of Katy's house. As part of the explanation, determine the distance, in blocks, Katy walks from the library to her house and the ordered pairs that describe the four possible locations of Katy's house. Show or explain all your work.

This describes 4 possible locations because David walked 16 blocks to get to his house, and Katy has to walk $\frac{1}{4}$ of that, which is 4 blocks. She could go in any direction, since we were given so little information. The ordered pairs that describe the 4 possible house locations are: $(-7, 8)$, $(-7, -8)$, $(-11, 4)$ and $(-11, -4)$.

74. The locations of some buildings in a town can be shown on the same coordinate plane. The ordered pair $(-6, 4)$ describes the location of the library. Starting at the library, Daniel walks 10 blocks east and 6 blocks south to his house.

- A. Plot two points on the coordinate plane below that show the locations of the library and Daniel's house. Label the location of the library as point L, and label the location of Daniel's house as point D.



74. *Continued.* Please refer to the previous page for task explanation.

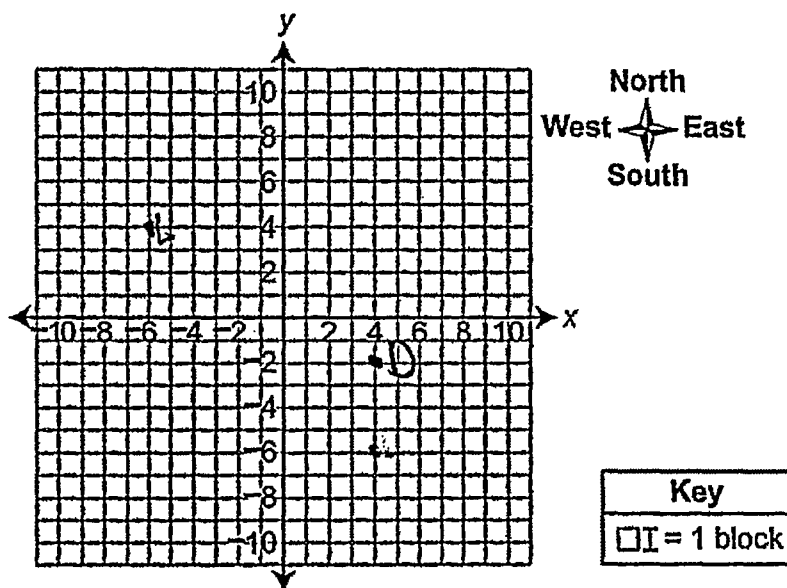
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- B. Explain why this information describes four possible locations of Katy's house. As part of the explanation, determine the distance, in blocks, Katy walks from the library to her house and the ordered pairs that describe the four possible locations of Katy's house. Show or explain all your work.

Katy walks 4 blocks to get to her house in four different directions. There are four different directions because of South, East, and West. The different coordinates are $-6, -6$, $-2, 4$, $-7, 4$, $-6, 8$. That is where Katy lives.

74. The locations of some buildings in a town can be shown on the same coordinate plane. The ordered pair $(-6, 4)$ describes the location of the library. Starting at the library, Daniel walks 10 blocks east and 6 blocks south to his house.

- A. Plot two points on the coordinate plane below that show the locations of the library and Daniel's house. Label the location of the library as point L, and label the location of Daniel's house as point D.



74. *Continued.* Please refer to the previous page for task explanation.

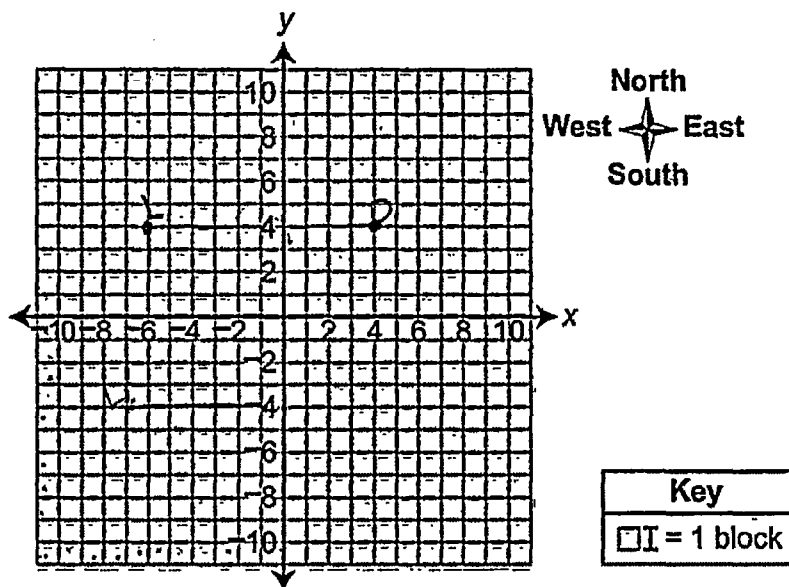
Katy walks from the library to her house. She walks only one direction in a straight line along what are shown as grid lines. The distance Katy walks from the library to her house is $\frac{1}{4}$ the distance Daniel walks from the library to his house.

- B. Explain why this information describes four possible locations of Katy's house. As part of the explanation, determine the distance, in blocks, Katy walks from the library to her house and the ordered pairs that describe the four possible locations of Katy's house. Show or explain all your work.

The information describes 4 possible ways to Katy's house. $\frac{1}{4}$ of the distance would be 4 blocks e. then North, South, West, East. $(-6,0)$ $(-6,8)$ $(-2,4)$ $(-10,4)$

74. The locations of some buildings in a town can be shown on the same coordinate plane. The ordered pair $(-6, 4)$ describes the location of the library. Starting at the library, Daniel walks 10 blocks east and 6 blocks south to his house.

- A. Plot two points on the coordinate plane below that show the locations of the library and Daniel's house. Label the location of the library as point L, and label the location of Daniel's house as point D.



74. *Continued.* Please refer to the previous page for task explanation.

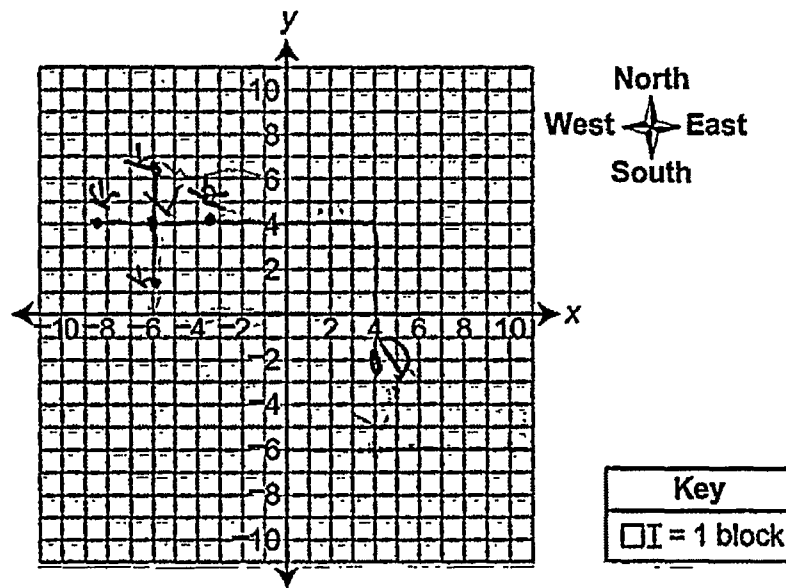
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- B. Explain why this information describes four possible locations of Katy's house. As part of the explanation, determine the distance, in blocks, Katy walks from the library to her house and the ordered pairs that describe the four possible locations of Katy's house. Show or explain all your work.

Katy's house could have four possible locations because $\frac{1}{4}$ of the distance from Daniel's house is 2.4 possible locations of Katy's house are $(6,2)$; $(4,4)$; $(2,4)$; and last $(6,5)$.

74. The locations of some buildings in a town can be shown on the same coordinate plane. The ordered pair $(-6, 4)$ describes the location of the library. Starting at the library, Daniel walks 10 blocks east and 6 blocks south to his house.

- A. Plot two points on the coordinate plane below that show the locations of the library and Daniel's house. Label the location of the library as point L, and label the location of Daniel's house as point D.



74. *Continued.* Please refer to the previous page for task explanation.

Katy walks from the library to her house. She walks only one direction in a straight line along what are shown as grid lines. The distance Katy walks from the library to her house is $\frac{1}{4}$ the distance Daniel walks from the library to his house.

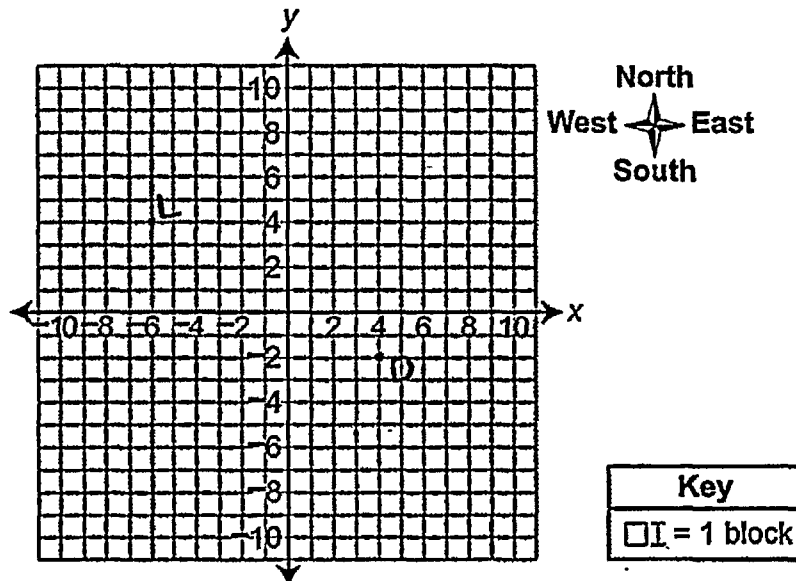
- B. Explain why this information describes four possible locations of Katy's house. As part of the explanation, determine the distance, in blocks, Katy walks from the library to her house and the ordered pairs that describe the four possible locations of Katy's house. Show or explain all your work. This could

be four possible ways because from one point on a coordinate plane you can go four different ways. She only has to walk two and half blocks. $(-6, 6.5)$, $(-3.5, 4)$, $(-6, 1.5)$, $(-8.5, 4)$

$$\begin{array}{r} 10 \\ \times 2.5 \\ \hline 2.5 \end{array}$$

74. The locations of some buildings in a town can be shown on the same coordinate plane. The ordered pair $(-6, 4)$ describes the location of the library. Starting at the library, Daniel walks 10 blocks east and 6 blocks south to his house.

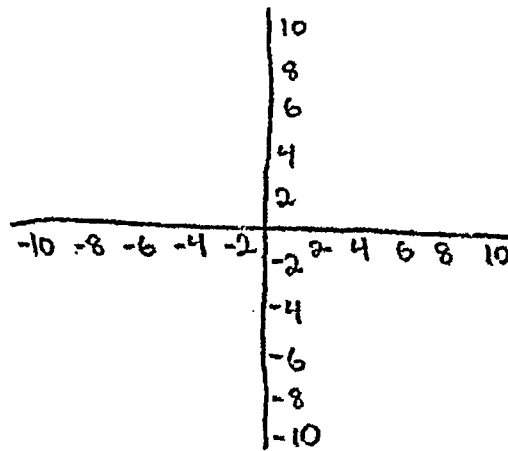
A. Plot two points on the coordinate plane below that show the locations of the library and Daniel's house. Label the location of the library as point L, and label the location of Daniel's house as point D.



74. *Continued.* Please refer to the previous page for task explanation.

Katy walks from the library to her house. She walks only one direction in a straight line along what are shown as grid lines. The distance Katy walks from the library to her house is $\frac{1}{4}$ the distance Daniel walks from the library to his house.

- B. Explain why this information describes four possible locations of Katy's house. As part of the explanation, determine the distance, in blocks, Katy walks from the library to her house and the ordered pairs that describe the four possible locations of Katy's house. Show or explain all your work.



$$\begin{array}{r} 16 \\ \times .25 \\ \hline 80 \\ +32 \\ \hline 4.00 \end{array}$$

4 block

Katy can go north, south, east, or west

$(-6, 8)$; $(-6, 0)$; $(-2, 4)$; $(-10, 4)$

Subject: Math

Item: Library and Daniel's House

Grade:6

Name _____

Number	Score	Notes
T1-1		
T1-2		
T1-3		
T1-4		
T1-5		
T1-6		
T1-7		
T1-8		
T1-9		
T1-10		

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PSSA and Keystone Exams
Fall 2015
Item Writing and Handscoring Training Workshops

PSSA, Grade 6 Math

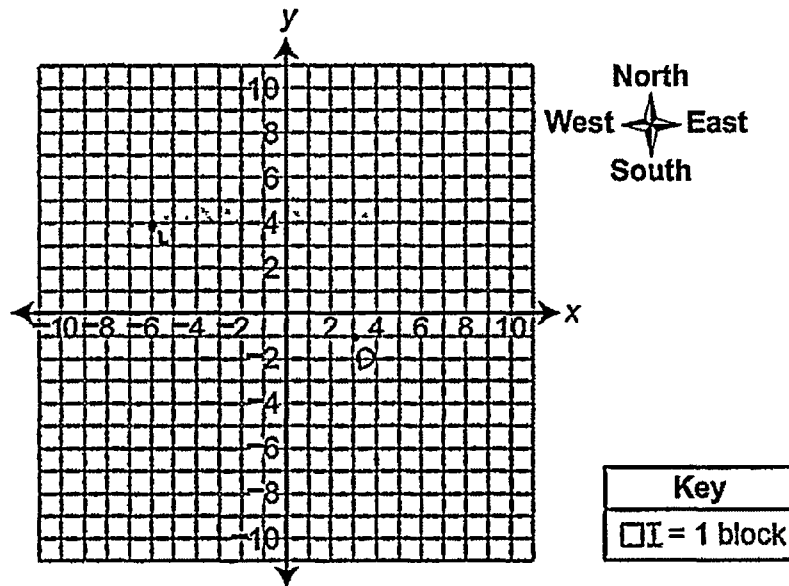
Library and Daniel's House

Handscoring
Training Set 2

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74. The locations of some buildings in a town can be shown on the same coordinate plane. The ordered pair $(-6, 4)$ describes the location of the library. Starting at the library, Daniel walks 10 blocks east and 6 blocks south to his house.

- A. Plot two points on the coordinate plane below that show the locations of the library and Daniel's house. Label the location of the library as point L, and label the location of Daniel's house as point D.



74. *Continued.* Please refer to the previous page for task explanation.

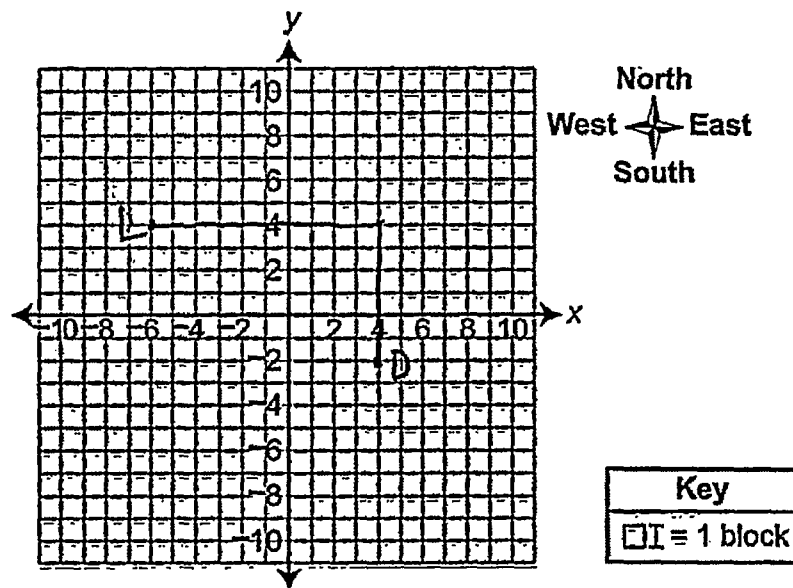
Katy walks from the library to her house. She walks only one direction in a straight line along what are shown as grid lines. The distance Katy walks from the library to her house is $\frac{1}{4}$ the distance Daniel walks from the library to his house.

- B. Explain why this information describes four possible locations of Katy's house. As part of the explanation, determine the distance, in blocks, Katy walks from the library to her house and the ordered pairs that describe the four possible locations of Katy's house. Show or explain all your work.

This information describes four possible locations because it says Katy's walk from the library to her house is $\frac{1}{4}$, Katy's house is 4 blocks away from the library. Four possible locations for Katy's house are, $(-2, 4)$, $(-6, 8)$, $(10, 4)$ and $(-6, 0)$.

74. The locations of some buildings in a town can be shown on the same coordinate plane. The ordered pair $(-6, 4)$ describes the location of the library. Starting at the library, Daniel walks 10 blocks east and 6 blocks south to his house.

A. Plot two points on the coordinate plane below that show the locations of the library and Daniel's house. Label the location of the library as point L, and label the location of Daniel's house as point D.



74. *Continued.* Please refer to the previous page for task explanation.

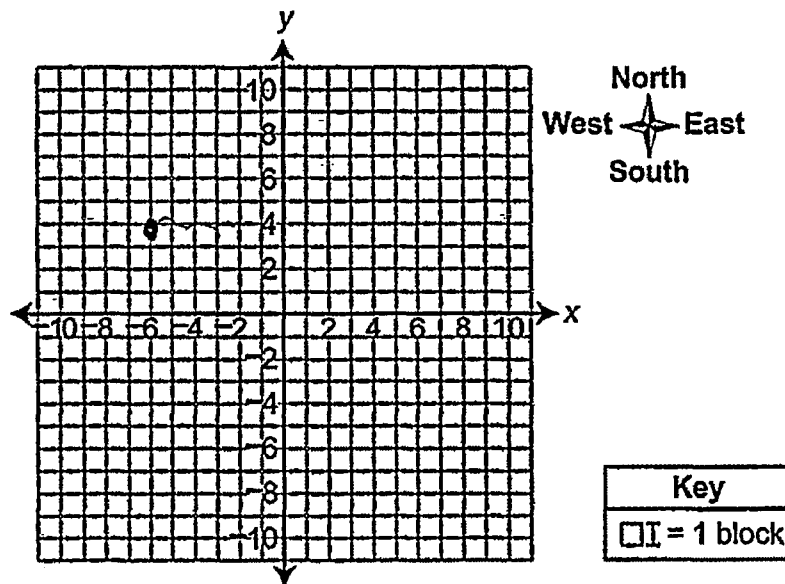
Katy walks from the library to her house. She walks only one direction in a straight line along what are shown as grid lines. The distance Katy walks from the library to her house is $\frac{1}{4}$ the distance Daniel walks from the library to his house.

- B. Explain why this information describes four possible locations of Katy's house. As part of the explanation, determine the distance, in blocks, Katy walks from the library to her house and the ordered pairs that describe the four possible locations of Katy's house. Show or explain all your work.

This information describes four possible locations of Katy's house because Daniel walks 16 blocks to his house. $\frac{1}{4}$ of 16 is 4, so Katy must walk 4 blocks in a straight line from the library to get to her house. She could be walking in a straight line North, South, East, or West. The location of the library is $(-6, 4)$, so the four possible locations of her house are $(-2, 4)$, $(-10, 4)$, $(-6, 0)$, and $(-6, 8)$.

74. The locations of some buildings in a town can be shown on the same coordinate plane. The ordered pair $(-6, 4)$ describes the location of the library. Starting at the library, Daniel walks 10 blocks east and 6 blocks south to his house.

- A. Plot two points on the coordinate plane below that show the locations of the library and Daniel's house. Label the location of the library as point L, and label the location of Daniel's house as point D.



74. **Continued.** Please refer to the previous page for task explanation.

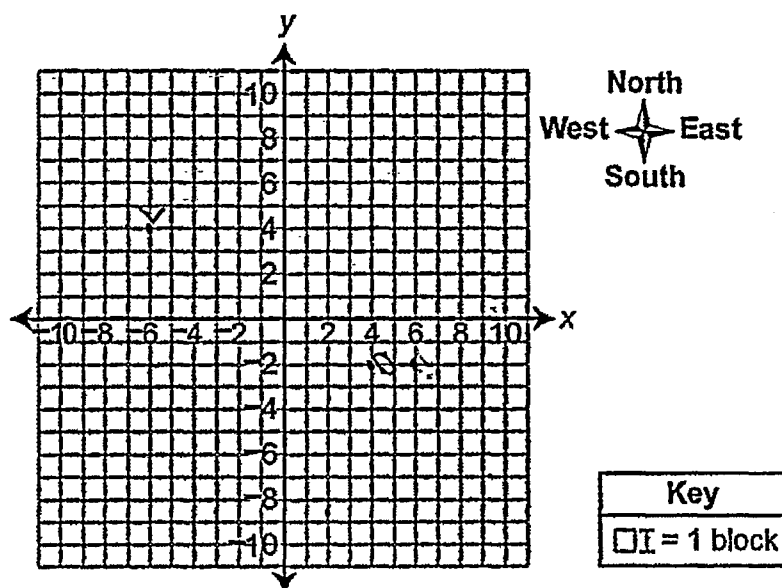
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- B. Explain why this information describes four possible locations of Katy's house. As part of the explanation, determine the distance, in blocks, Katy walks from the library to her house and the ordered pairs that describe the four possible locations of Katy's house. Show or explain all your work.

she walked
to the library
because she
likes to read.

74. The locations of some buildings in a town can be shown on the same coordinate plane. The ordered pair $(-6, 4)$ describes the location of the library. Starting at the library, Daniel walks 10 blocks east and 6 blocks south to his house.

- A. Plot two points on the coordinate plane below that show the locations of the library and Daniel's house. Label the location of the library as point L, and label the location of Daniel's house as point D.



74. *Continued.* Please refer to the previous page for task explanation.

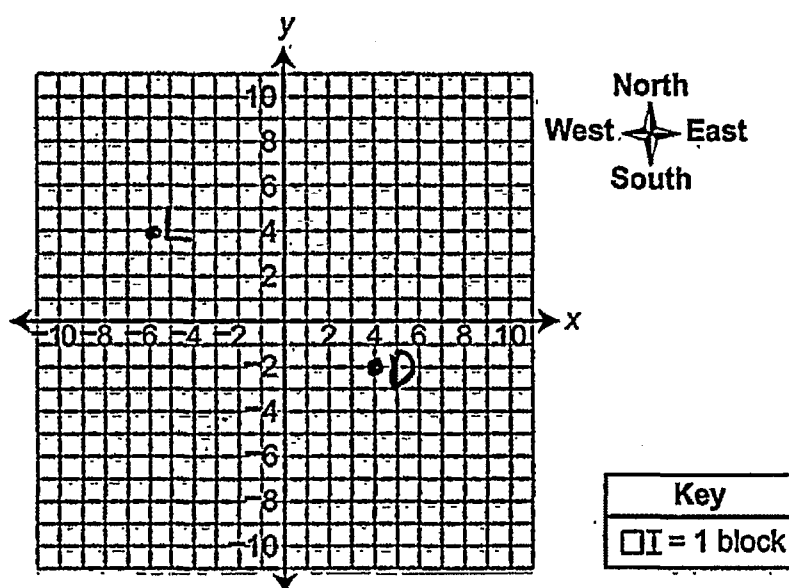
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- B. Explain why this information describes four possible locations of Katy's house. As part of the explanation, determine the distance, in blocks, Katy walks from the library to her house and the ordered pairs that describe the four possible locations of Katy's house. Show or explain all your work.

Katy's house can be put on the grid. It could be $(-2, 4)$ or $(-6, 0)$ or $(-10, 4)$ or $(-6, 8)$. I know this because I know $\frac{1}{4}$ is equal to 25% and that is equal to .25 so I took 10 blocks + 6 blocks equals 16 blocks so I took .25 and multiplied them and got 4. Then I counted 4 spaces away from L and got my answer.

74. The locations of some buildings in a town can be shown on the same coordinate plane. The ordered pair $(-6, 4)$ describes the location of the library. Starting at the library, Daniel walks 10 blocks east and 6 blocks south to his house.

- A. Plot two points on the coordinate plane below that show the locations of the library and Daniel's house. Label the location of the library as point L, and label the location of Daniel's house as point D.



74. *Continued.* Please refer to the previous page for task explanation.

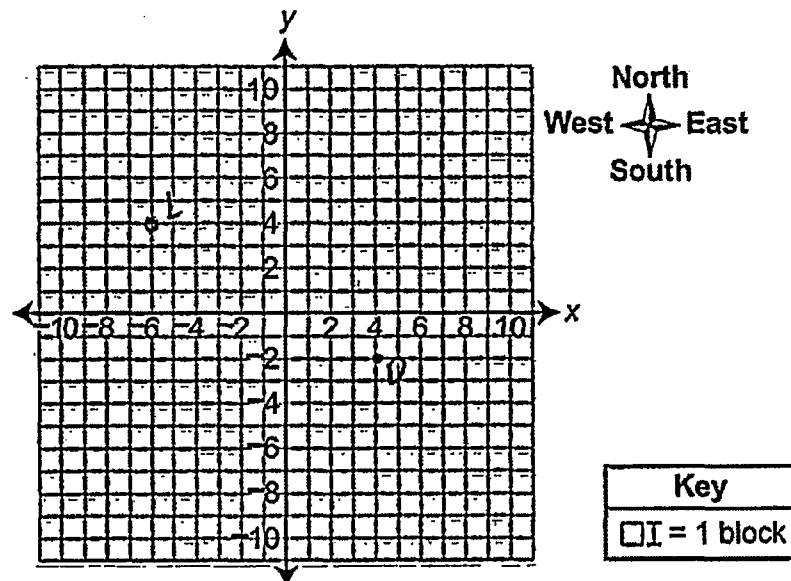
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- B. Explain why this information describes four possible locations of Katy's house. As part of the explanation, determine the distance, in blocks, Katy walks from the library to her house and the ordered pairs that describe the four possible locations of Katy's house. Show or explain all your work.

This information describes four possible locations because her house could be east, west, south, or north. She could be at (8.5, 4), (4.5, 4), (6, 2.5), and (6, 6.5). She walks 2.5 blocks from the library to her house.

74. The locations of some buildings in a town can be shown on the same coordinate plane. The ordered pair $(-6, 4)$ describes the location of the library. Starting at the library, Daniel walks 10 blocks east and 6 blocks south to his house.

- A. Plot two points on the coordinate plane below that show the locations of the library and Daniel's house. Label the location of the library as point L, and label the location of Daniel's house as point D.



74. *Continued.* Please refer to the previous page for task explanation.

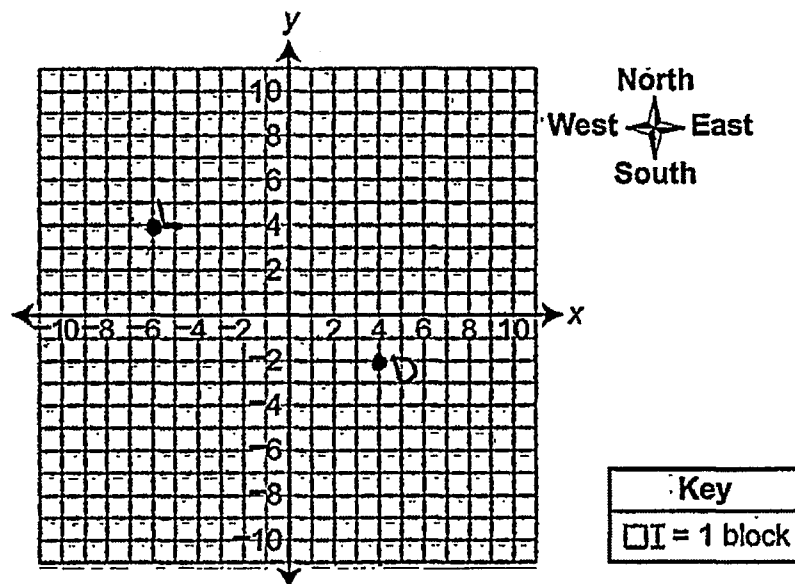
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- B. Explain why this information describes four possible locations of Katy's house. As part of the explanation, determine the distance, in blocks, Katy walks from the library to her house and the ordered pairs that describe the four possible locations of Katy's house. Show or explain all your work.

This information describes 4 different locations because she could go north, south, east or west. She would have walked 12 blocks from the library. The ordered pairs would be $(-18, 4)$, $(-6, 4)$, $(-6, 8)$, $(-6, 16)$. I did this by counting 12 blocks away from the library in each direction.

74. The locations of some buildings in a town can be shown on the same coordinate plane. The ordered pair $(-6, 4)$ describes the location of the library. Starting at the library, Daniel walks 10 blocks east and 6 blocks south to his house.

- A. Plot two points on the coordinate plane below that show the locations of the library and Daniel's house. Label the location of the library as point L, and label the location of Daniel's house as point D.



74. *Continued.* Please refer to the previous page for task explanation.

Katy walks from the library to her house. She walks only one direction in a straight line along what are shown as grid lines. The distance Katy walks from the library to her house is $\frac{1}{4}$ the distance Daniel walks from the library to his house.

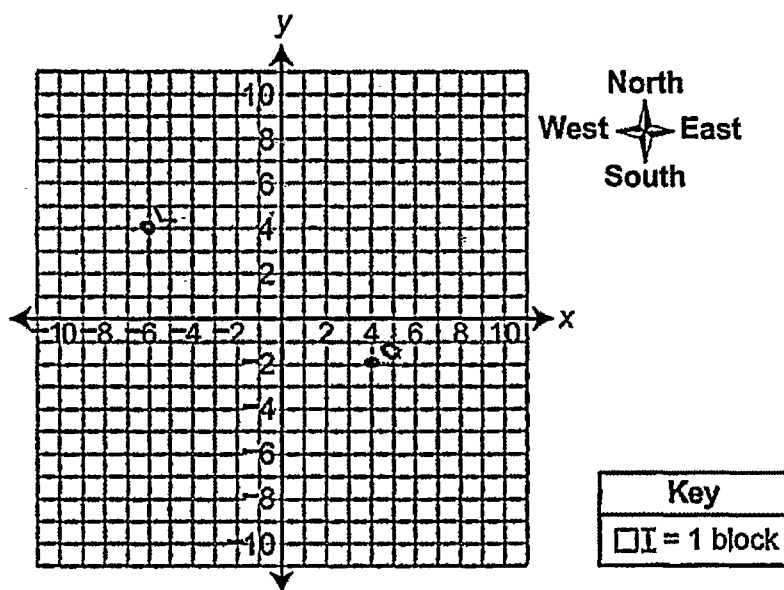
- B. Explain why this information describes four possible locations of Katy's house. As part of the explanation, determine the distance, in blocks, Katy walks from the library to her house and the ordered pairs that describe the four possible locations of Katy's house. Show or explain all your work.

The distance of Katy's house is 25 blocks. The four possible locations can be $(10, -4)$, $(-4, -10)$, $(1, 10)$, $(6, 5)$.

$$\frac{1 \times 25}{4 \times 25} = \frac{25}{100}$$

74. The locations of some buildings in a town can be shown on the same coordinate plane. The ordered pair $(-6, 4)$ describes the location of the library. Starting at the library, Daniel walks 10 blocks east and 6 blocks south to his house.

- A. Plot two points on the coordinate plane below that show the locations of the library and Daniel's house. Label the location of the library as point L, and label the location of Daniel's house as point D.



74. Continued. Please refer to the previous page for task explanation.

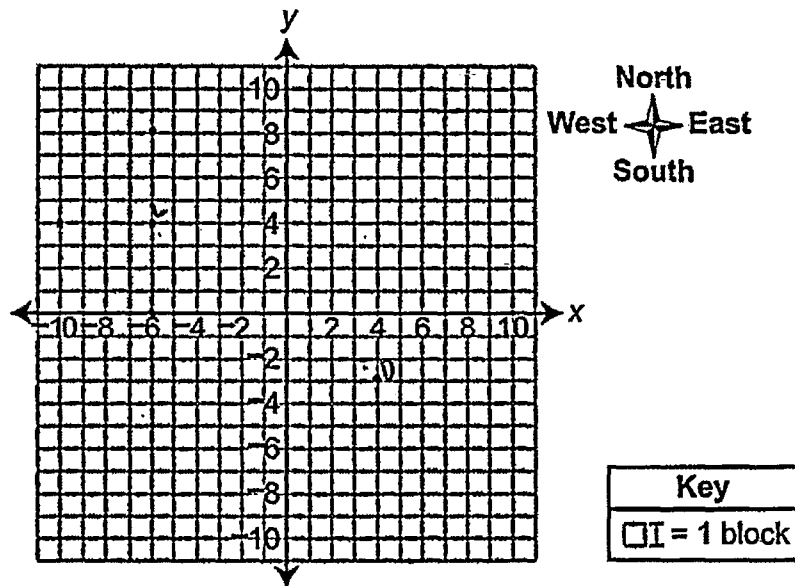
Katy walks from the library to her house. She walks only one direction in a straight line along what are shown as grid lines. The distance Katy walks from the library to her house is $\frac{1}{4}$ the distance Daniel walks from the library to his house.

- B. Explain why this information describes four possible locations of Katy's house. As part of the explanation, determine the distance, in blocks, Katy walks from the library to her house and the ordered pairs that describe the four possible locations of Katy's house. Show or explain all your work.

This information gives four possible locations of Katy's house because she has to go straight. Which means her house can be north, south, east, or west of the library. Since her house is $\frac{1}{4}$ the distance of Daniel's house I add $6+10=16$. Then I divide $16 \div 4 = 4$. So for south I went 4 blocks down and got $(0, -6)$. For north I went 4 blocks up and got $(-6, 8)$. For west I went 4 blocks to the left and got $(-10, 4)$. Lastly, for east I went 4 blocks to the right and got $(2, 4)$. Katy has to walk 4 blocks to the library from her house.

74. The locations of some buildings in a town can be shown on the same coordinate plane. The ordered pair $(-6, 4)$ describes the location of the library. Starting at the library, Daniel walks 10 blocks east and 6 blocks south to his house.

- A. Plot two points on the coordinate plane below that show the locations of the library and Daniel's house. Label the location of the library as point L, and label the location of Daniel's house as point D.



74. *Continued.* Please refer to the previous page for task explanation.

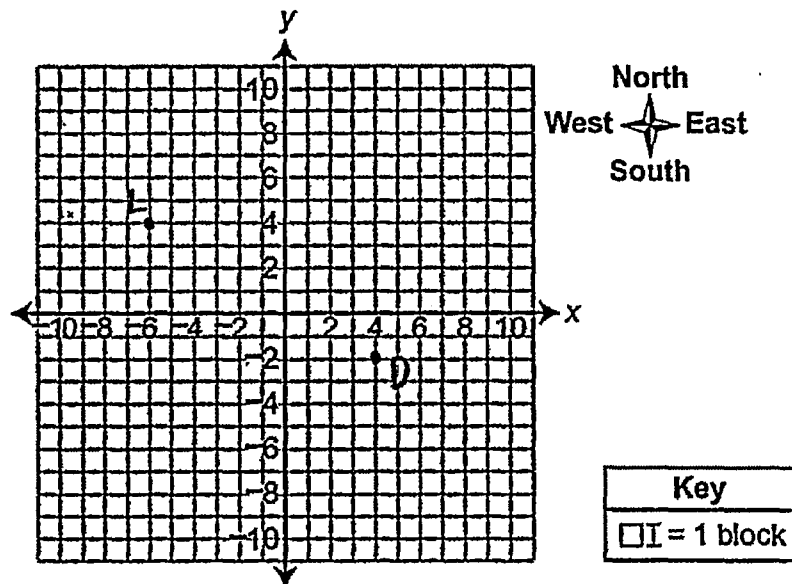
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- B. Explain why this information describes four possible locations of Katy's house. As part of the explanation, determine the distance, in blocks, Katy walks from the library to her house and the ordered pairs that describe the four possible locations of Katy's house. Show or explain all your work.

If you add up how many blocks it takes to get to Daniel's house and then divide it by 4 you get 4 then you count four block from the library in the directions North, west, east and south because it is in a straight line so the possible locations of Katy's house is $(-2, 4)$ $(0, -6)$ $(-6, 8)$ and $(-10, 4)$.

74. The locations of some buildings in a town can be shown on the same coordinate plane. The ordered pair $(-6, 4)$ describes the location of the library. Starting at the library, Daniel walks 10 blocks east and 6 blocks south to his house.

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74. *Continued.* Please refer to the previous page for task explanation.

Katy walks from the library to her house. She walks only one direction in a straight line along what are shown as grid lines. The distance Katy walks from the library to her house is $\frac{1}{4}$ the distance Daniel walks from the library to his house.

- B. Explain why this information describes four possible locations of Katy's house. As part of the explanation, determine the distance, in blocks, Katy walks from the library to her house and the ordered pairs that describe the four possible locations of Katy's house. Show or explain all your work.

This information describes four possible locations of Katy's house because it says her house is $\frac{1}{4}$ of the distance Daniel walks from the library to her house. Because it says from the library she could be walking north, south, east or west.

Daniel walks 16 blocks and $\frac{1}{4}$ of 16 is 4 blocks. So Katy walks 4 blocks from the library to her house.

Library location: $(-6, 4)$ She walks in a straight line on the grid, so her possible house locations are $(-6, 8)$; $(-2, 4)$; $(-6, 0)$; $(-10, 4)$.

Subject: Math

Item: Library and Daniel's House

Grade: 6

Name _____

Number	Score	Notes
T2-1		
T2-2		
T2-3		
T2-4		
T2-5		
T2-6		
T2-7		
T2-8		
T2-9		
T2-10		

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PSSA, Grade 6 Math

Library and Daniel's House

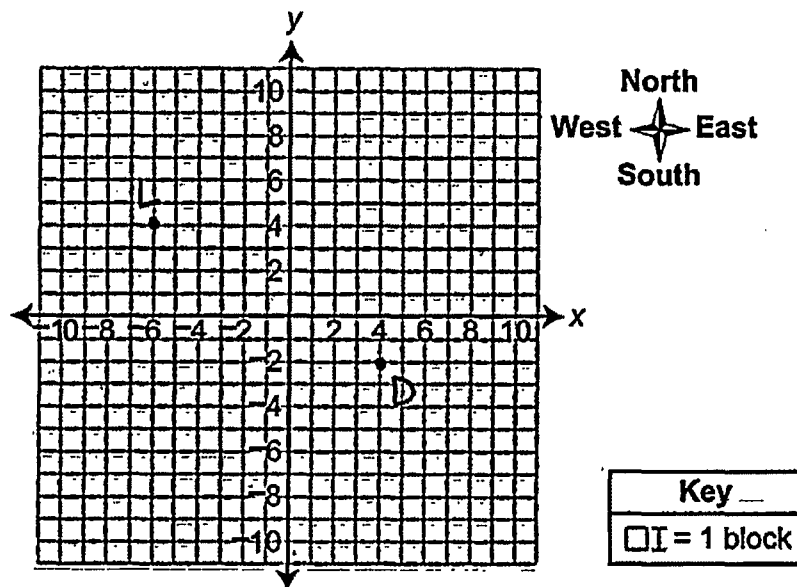
Handscoring Practice Set^{*}

*Responses in this set do not have true scores. Apply scores based on scoring criteria.

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74. The locations of some buildings in a town can be shown on the same coordinate plane. The ordered pair $(-6, 4)$ describes the location of the library. Starting at the library, Daniel walks 10 blocks east and 6 blocks south to his house.

- A. Plot two points on the coordinate plane below that show the locations of the library and Daniel's house. Label the location of the library as point L, and label the location of Daniel's house as point D.



74. *Continued.* Please refer to the previous page for task explanation.

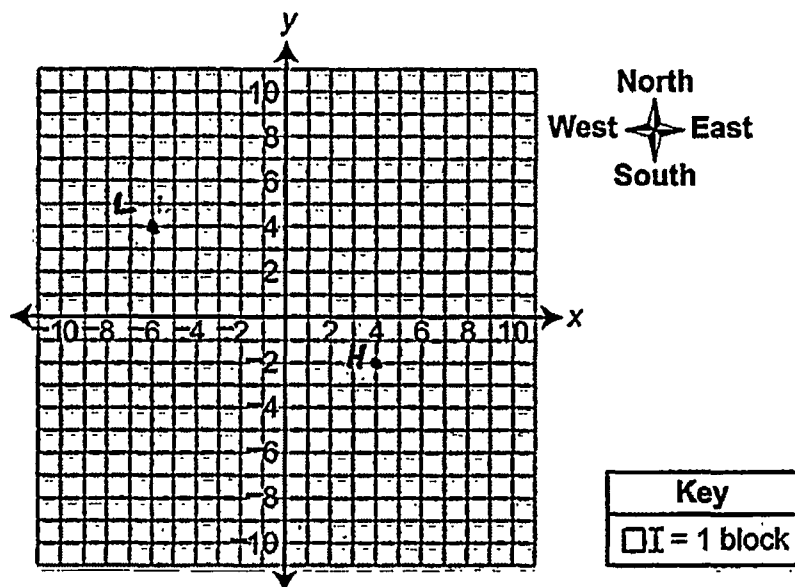
Katy walks from the library to her house. She walks only one direction in a straight line along what are shown as grid lines. The distance Katy walks from the library to her house is $\frac{1}{4}$ the distance Daniel walks from the library to his house.

- B. Explain why this information describes four possible locations of Katy's house. As part of the explanation, determine the distance, in blocks, Katy walks from the library to her house and the ordered pairs that describe the four possible locations of Katy's house. Show or explain all your work.

This information describes four possible locations of Katy's house because since Katy's distance by walking, from the library to her house is $\frac{1}{4}$ the distance of Daniel's, I added Daniel's total blocks to get 16. Then I divided 16 by 4 because you had to get $\frac{1}{4}$. That shows that Katy only has to walk 4 blocks to get home from the library. Also, because Katy only walks one direction, so, she could either walk 4 blocks north, east, south, or west. $(-6, 8)$ $(-2, 4)$
 $(-6, 0)$ $(-10, 4)$

74. The locations of some buildings in a town can be shown on the same coordinate plane. The ordered pair $(-6, 4)$ describes the location of the library. Starting at the library, Daniel walks 10 blocks east and 6 blocks south to his house.

- A. Plot two points on the coordinate plane below that show the locations of the library and Daniel's house. Label the location of the library as point L, and label the location of Daniel's house as point D.



74. *Continued.* Please refer to the previous page for task explanation.

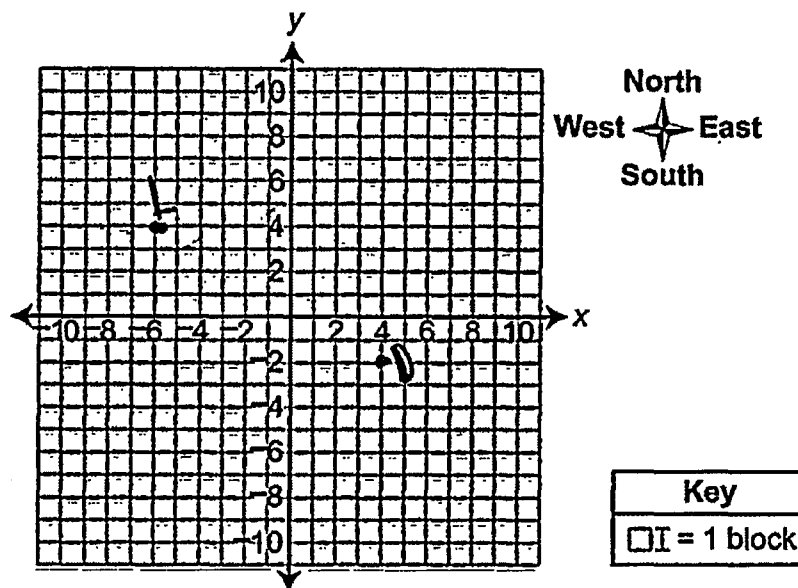
Katy walks from the library to her house. She walks only one direction in a straight line along what are shown as grid lines. The distance Katy walks from the library to her house is $\frac{1}{4}$ the distance Daniel walks from the library to his house.

- B. Explain why this information describes four possible locations of Katy's house. As part of the explanation, determine the distance, in blocks, Katy walks from the library to her house and the ordered pairs that describe the four possible locations of Katy's house. Show or explain all your work.

There are 4 possible locations of Katy's house because 16 which is the distance Daniel walks to his house, then you take 16 and divide it by 4 which represents the $\frac{1}{4}$ of the distance Daniel walks and Katy walks $\frac{1}{4}$ of the distance that Daniel walked and that is 4 blocks. So there are 4 possible ways Katy could have walked.

74. The locations of some buildings in a town can be shown on the same coordinate plane. The ordered pair $(-6, 4)$ describes the location of the library. Starting at the library, Daniel walks 10 blocks east and 6 blocks south to his house.

- A. Plot two points on the coordinate plane below that show the locations of the library and Daniel's house. Label the location of the library as point L, and label the location of Daniel's house as point D.



74. *Continued.* Please refer to the previous page for task explanation.

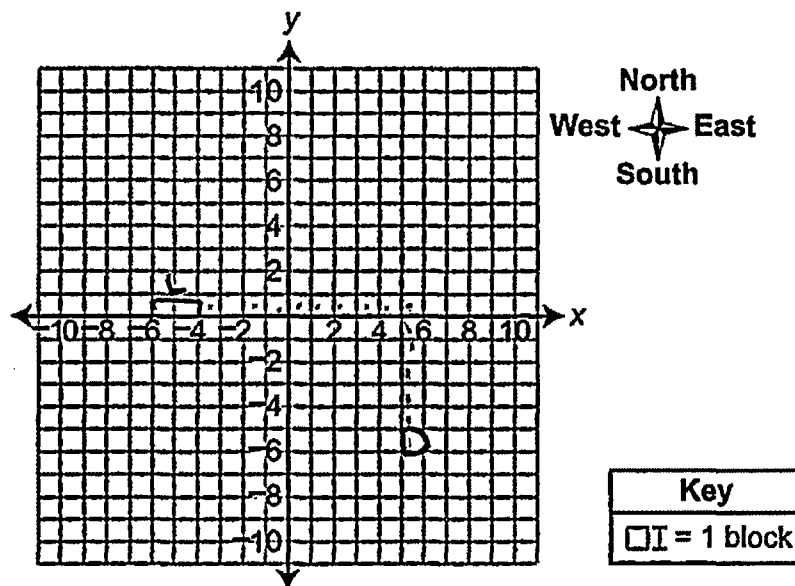
Katy walks from the library to her house. She walks only one direction in a straight line along what are shown as grid lines. The distance Katy walks from the library to her house is $\frac{1}{4}$ the distance Daniel walks from the library to his house.

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This information shows the possible locations of Katy's house. because it gives hints that she only walks 4 blocks from the library. The possible coordinants are $(-6,0)$ $(-10,4)$ $(-2,4)$ and $(-6,8)$.

74. The locations of some buildings in a town can be shown on the same coordinate plane. The ordered pair $(-6, 4)$ describes the location of the library. Starting at the library, Daniel walks 10 blocks east and 6 blocks south to his house.

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74. **Continued.** Please refer to the previous page for task explanation.

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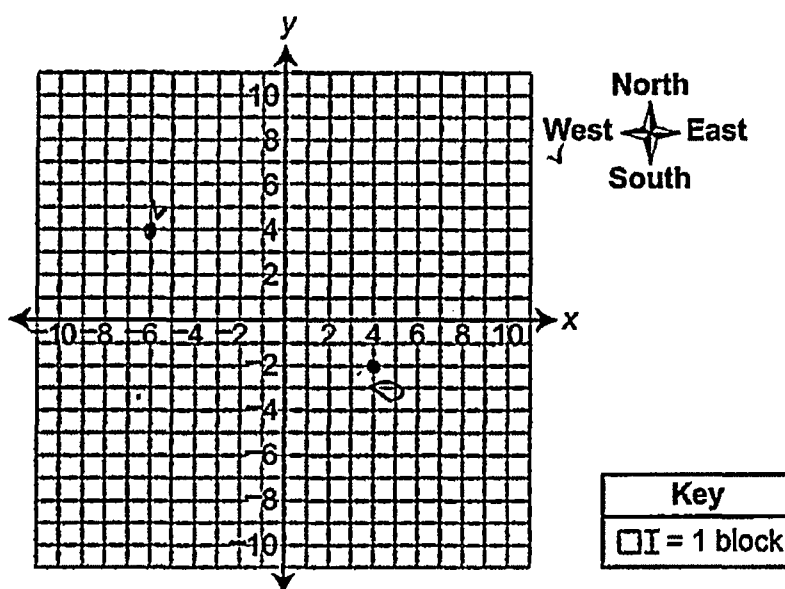
- B. Explain why this information describes four possible locations of Katy's house. As part of the explanation, determine the distance, in blocks, Katy walks from the library to her house and the ordered pairs that describe the four possible locations of Katy's house. Show or explain all your work.

$$\frac{1}{4} \div 16 = 0.25 \quad 25 - 16 = 9 \quad \text{Katy walks}$$

9 more blocks than Daniel.

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74. *Continued.* Please refer to the previous page for task explanation.

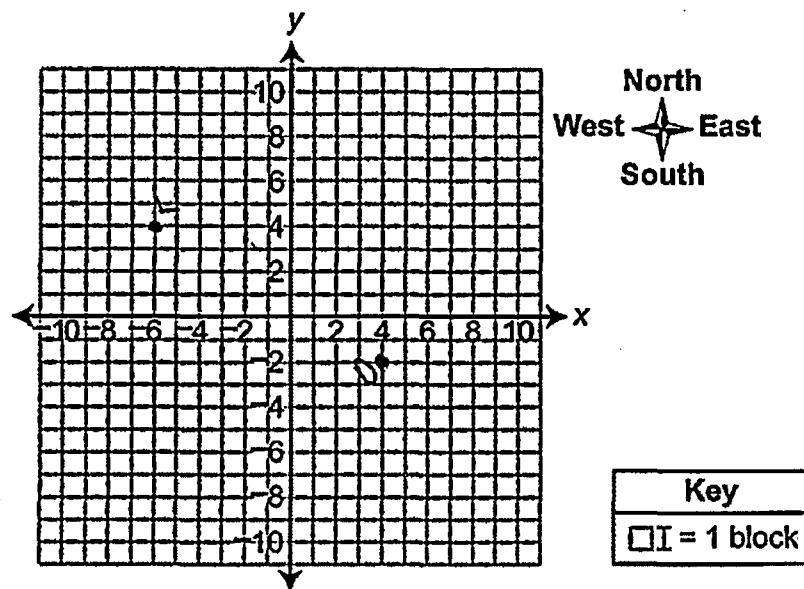
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Because she could walk a straight line north, west, east, south. The ordered pairs would be $(-7, 10), (-10, 4), (10, 4), (-6, -10)$

74. The locations of some buildings in a town can be shown on the same coordinate plane. The ordered pair $(-6, 4)$ describes the location of the library. Starting at the library, Daniel walks 10 blocks east and 6 blocks south to his house.

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74. *Continued.* Please refer to the previous page for task explanation.

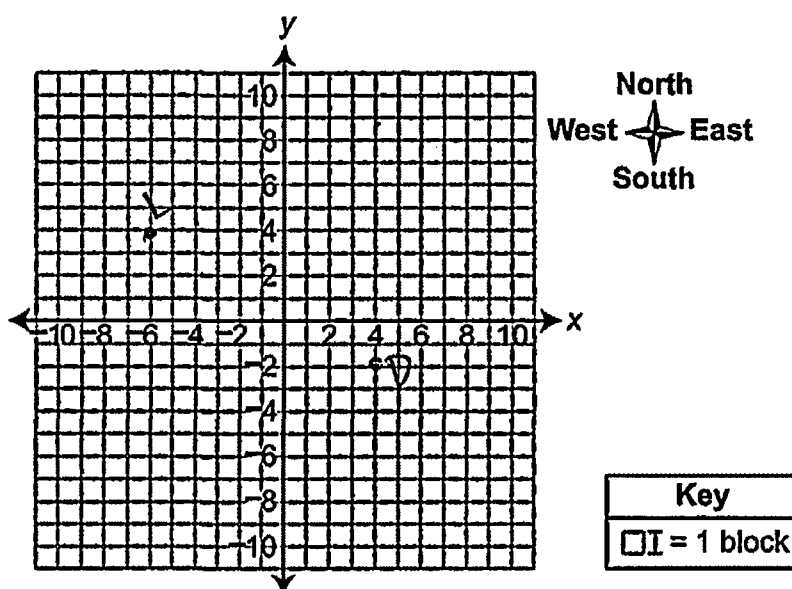
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- B. Explain why this information describes four possible locations of Katy's house. As part of the explanation, determine the distance, in blocks, Katy walks from the library to her house and the ordered pairs that describe the four possible locations of Katy's house. Show or explain all your work.

This information describes four possible locations of Katy's house because she can walk in a straight north, south, east, and west. She only walks four blocks from the location she starts so the possible ordered pairs are $(-6, 0)$, $(-6, 4)$, $(-2, 4)$, and $(-10, 4)$. These are the four possible locations where Katy's house is.

74. The locations of some buildings in a town can be shown on the same coordinate plane. The ordered pair $(-6, 4)$ describes the location of the library. Starting at the library, Daniel walks 10 blocks east and 6 blocks south to his house.

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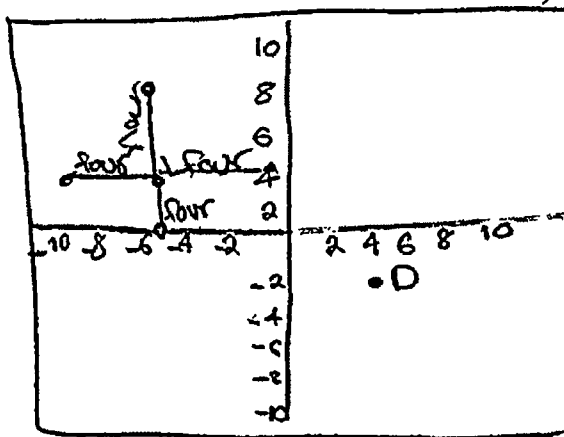


74. **Continued.** Please refer to the previous page for task explanation.

Katy walks from the library to her house. She walks only one direction in a straight line along what are shown as grid lines. The distance Katy walks from the library to her house is $\frac{1}{4}$ the distance Daniel walks from the library to his house.

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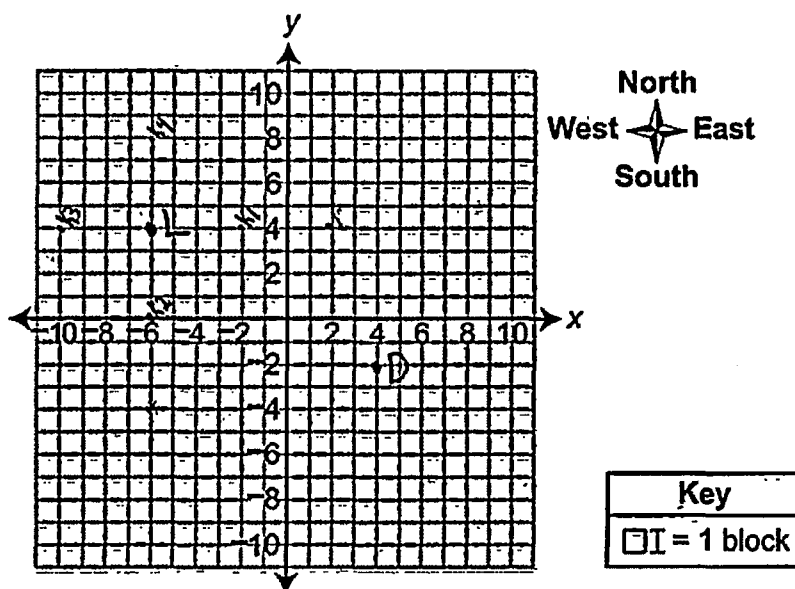
$$\begin{array}{l} 16 \leftarrow \text{Daniel's distance} \\ \times \frac{1}{4} \leftarrow \text{the distance} \\ \hline 4 \quad \quad \quad (\text{Katy}) \end{array}$$



she can go 4 different ways in a straight line with only using four blocks

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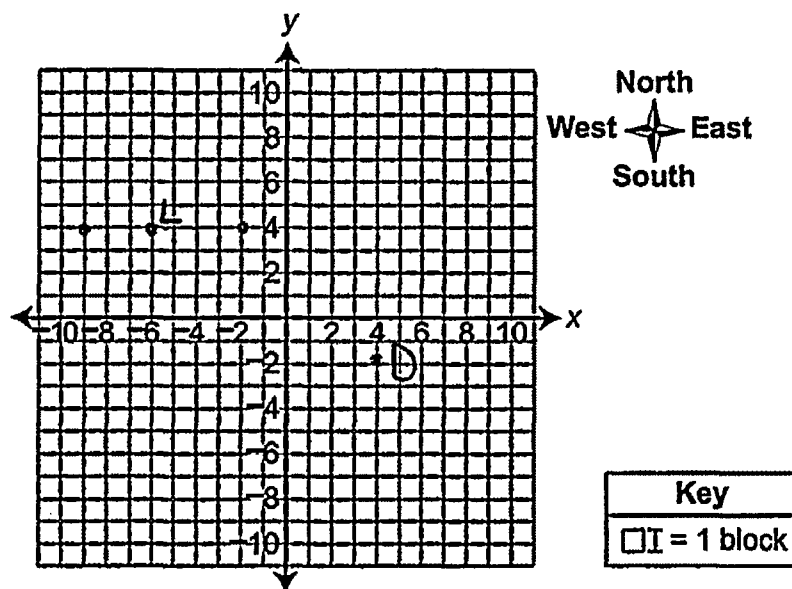
- B. Explain why this information describes four possible locations of Katy's house. As part of the explanation, determine the distance, in blocks, Katy walks from the library to her house and the ordered pairs that describe the four possible locations of Katy's house. Show or explain all your work.

The information shows four possible locations because there are four cardinal directions, North, South, East, and West. Katy goes 4 blocks because $\frac{1}{4}$ of 16, what Daniel had to walk (not 6), is 4. Katy walked straight blocks. The 4 possible locations of Katy's house are $(-2, 4)$, $(-6, 0)$, $(-10, 4)$, and $(-6, 8)$.

$$\begin{array}{c} \times \\ 4 \end{array} \quad \frac{1}{4} \text{ of } 16 = \text{4 blocks}$$

74. The locations of some buildings in a town can be shown on the same coordinate plane. The ordered pair $(-6, 4)$ describes the location of the library. Starting at the library, Daniel walks 10 blocks east and 6 blocks south to his house.

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74. *Continued.* Please refer to the previous page for task explanation.

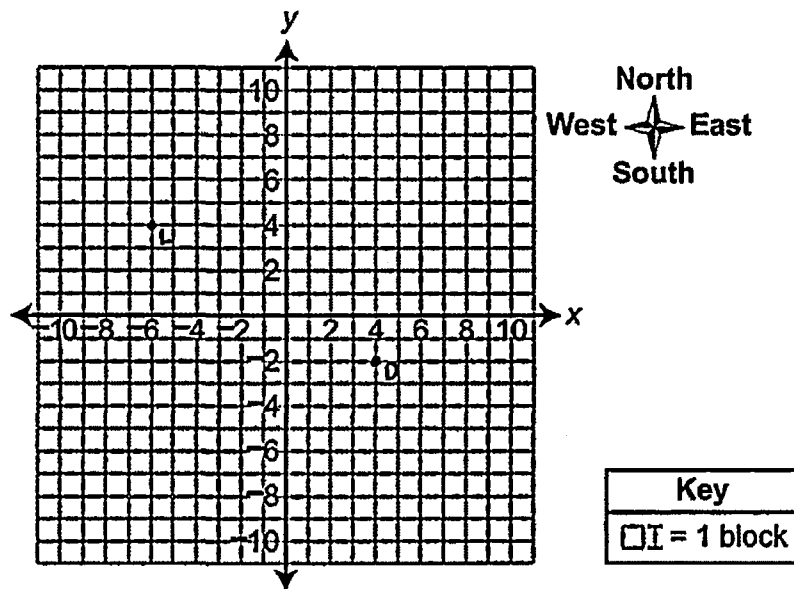
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Katy's house could be in
for different locations because
she goes in a straight
line from the library
(-6,8), (-6,0), (-8,4), (-2,4)
I measured $\frac{1}{4}$ on the
grid of Daniel's walk then
figured out that much
space from the library
using a straight line.

74. The locations of some buildings in a town can be shown on the same coordinate plane. The ordered pair $(-6, 4)$ describes the location of the library. Starting at the library, Daniel walks 10 blocks east and 6 blocks south to his house.

- A. Plot two points on the coordinate plane below that show the locations of the library and Daniel's house. Label the location of the library as point L, and label the location of Daniel's house as point D.



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Katy walks from the library to her house. She walks only one direction in a straight line along what are shown as grid lines. The distance Katy walks from the library to her house is $\frac{1}{4}$ the distance Daniel walks from the library to his house.

- B. Explain why this information describes four possible locations of Katy's house. As part of the explanation, determine the distance, in blocks, Katy walks from the library to her house and the ordered pairs that describe the four possible locations of Katy's house. Show or explain all your work.

The information above shows that Katy's house is $\frac{1}{4}$ the distance that Daniel walked to his house. $\frac{1}{4}$ is equivalent to 25%. 16 blocks is how much Daniel walked to his house. $16 \div 4 = 4$ blocks. Katy walked 4 blocks to her house. The information also says that her house, from the library went in a straight line. Her four possible locations are $(-6, 8)$, $(-10, 4)$, $(-6, 0)$, and $(-2, 4)$.

Practice Set*

Subject: **Math**Item: **Library and Daniel's House**

Grade 6

Name _____

Number	Score	Consensus	Annotation
P-1			
P-2			
P-3			
P-4			
P-5			
P-6			
P-7			
P-8			
P-9			
P-10			

*Responses in this set do not have true scores. Apply scores based on scoring criteria.

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PSSA, Grade 6 Math

Library and Daniel's House

Handscoring
Training Sets 1 and 2
True Scores/Annotations

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Page	Score	Description
1	1	A. 0.5 point – one point (L) correctly plotted and labeled. B. 0.5 point – correct but incomplete support only (north, east, south, west); no distance or ordered pairs given.
2	2	A. 0.5 point – one point (L) correctly plotted and labeled. B. 2 points – correct distance and all correct ordered pairs; no credit for support (“in a straight line from point L” is insufficient to support the possible locations of Katy’s house).
3	4	A. 1 point – both points correctly plotted and labeled (“point D” and “point L” are acceptable labels). B. 3 points – correct distance, all correct ordered pairs, and complete support.
4	0	Nothing is correct for credit in any part. There is no credit for one correct point in part A without a label. The ordered pairs in part B are all 2.5 units away from the unlabeled point for the library, which would only be given credit if 2.5 (blocks) had been given for the distance.
5	3	A. 0.5 point – one point (D) correctly plotted and labeled. B. 2.5 points – correct distance, all correct ordered pairs based on incorrect location of point L (-7,4), and correct but incomplete support (“any direction” is insufficient to support the possible locations of Katy’s house).
6	2	A. 0.5 point – both points are correctly plotted, but the labels are incorrect (must be “L” and “D” or “point L” and “point D” for full credit). B. 1.5 points – correct distance, correct but incomplete support (“south, east, and west” – see SG – 9). The ordered pairs must be in standard form to receive any credit.
7	3	A. 1 point - both points correctly plotted and labeled. B. 2.5 points – correct distance, all correct ordered pairs, correct but incomplete support (insufficient support for 4 blocks; don’t need to see “10 + 6,” but do need to see 16).
8	1	A. 0.5 point – one point correctly plotted and labeled (L). B. 0.5 point – incorrect distance (2 blocks), 3 of 4 correct ordered pairs based on 2 blocks.
9	2	A. 1 point – both points correctly plotted and labeled. B. 1 point – incorrect distance, all correct ordered pairs based on 2.5 blocks.
10	4	A. 1 point – both points correctly plotted and labeled. B. 3 points – correct distance, all correct ordered pairs, and complete support. Note that “ <i>explain why...</i> ” does require at least a word or two for full credit, not just showing work; it is sufficient here.

Page	Score	Description
1	2	A. 0.5 point – one point correctly plotted and labeled. B. 2 points – correct distance and all correct ordered pairs. No support given for distance or locations.
2	4	A. 1 point – both points correctly plotted and labeled. B. 3 points – correct distance, all correct ordered pairs, and complete support.
3	0	Nothing is correct for credit in either part. In part A, there is no credit for one correct point without a correct label.
4	3	A. 1 point – both points correctly plotted and labeled. B. 2.5 points – correct distance, all correct ordered pairs, correct but incomplete support (no directions).
5	1	A. 1 point – both points correctly plotted and labeled. B. 0.5 point – correct but incomplete support (“east, west, north, or south”). The ordered pairs are incorrect based on the incorrect distance.
6	2	A. 1 point – both points correctly plotted and labeled. B. 1 point – incorrect distance (12 blocks); 2 of 4 correct ordered pairs based on 12 blocks, and correct but incomplete support (directions).
7	1	A. 1 point – both points correctly plotted and labeled. B. 0 points – nothing is correct for credit.
8	3	A. 1 point – both points correctly plotted and labeled. B. 2.5 points – correct distance, 3 of 4 correct ordered pairs [(0,-6) is incorrect]; complete support.
9	2	A. 0.5 point – one point correctly plotted and labeled (L). B. 2 points – correct distance, 3 of 4 correct ordered pairs [(0,-6) is incorrect], correct but incomplete support (directions).
10	4	A. 1 point – both points correctly plotted and labeled. B. 3 points – correct distance, all correct ordered pairs, and complete support.