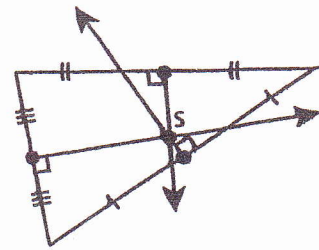
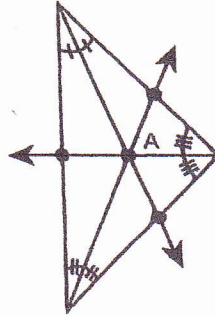
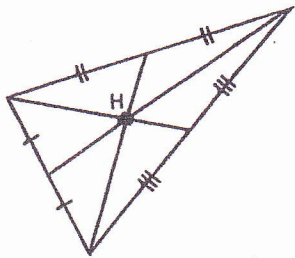


# Determine Concurrent Lines

Use the terms in the word box to label the type of concurrent lines and the point of concurrency that have been marked on each triangle.

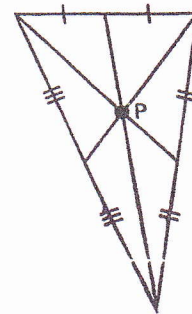
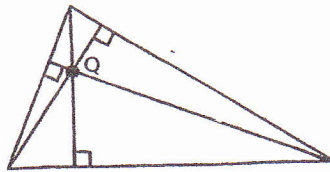
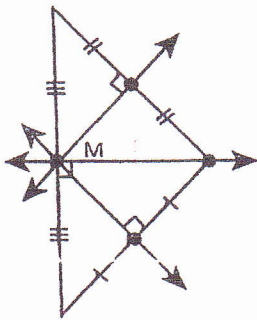
<i>altitude</i>	<i>median</i>	<i>perpendicular bisector</i>	<i>angle bisector</i>
<i>orthocenter</i>	<i>centroid</i>	<i>incenter</i>	<i>circumcenter</i>



1 \_\_\_\_\_

2 \_\_\_\_\_

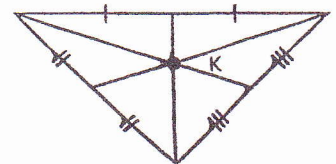
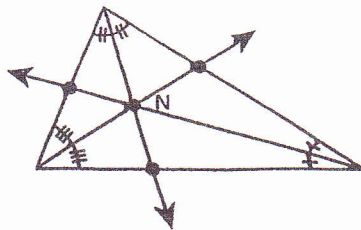
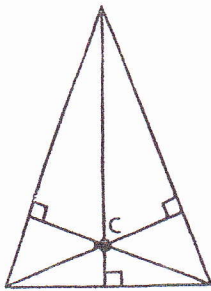
3 \_\_\_\_\_



4 \_\_\_\_\_

5 \_\_\_\_\_

6 \_\_\_\_\_



7 \_\_\_\_\_

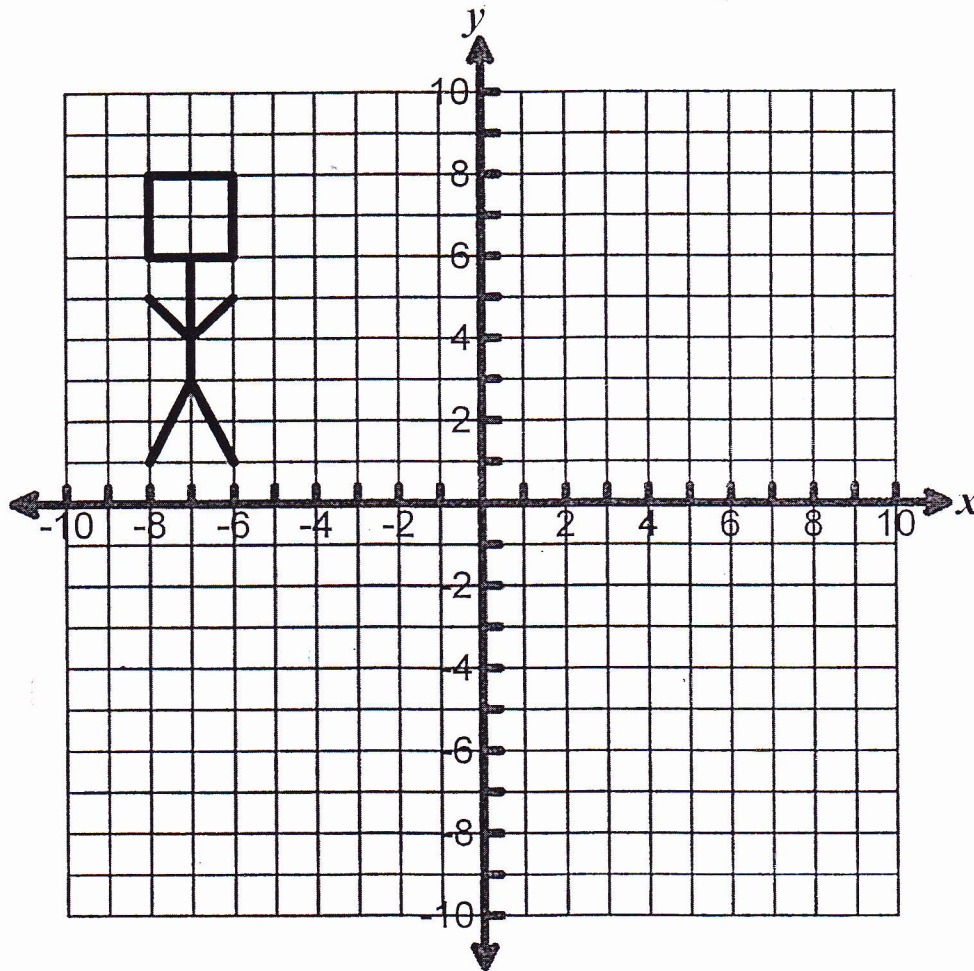
8 \_\_\_\_\_

9 \_\_\_\_\_

### Falling Down

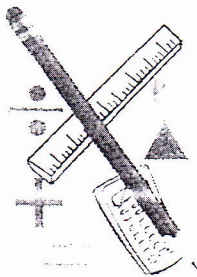
Clumsy Casey is walking down the sidewalk when all of a sudden he trips over his own two feet and falls flat on his back! Casey's original position is shown on the graph below.

- Casey's walk is represented by the mapping  $(x + 11, y)$ . Sketch Casey's image showing his position immediately before tripping.
- After falling, Casey's position is a  $90^\circ$  clockwise rotation, about the origin of his position before he tripped. Sketch Casey's image showing his position immediately after tripping.



#### Communicating About Mathematics

How does Casey's final position compare to his original position?



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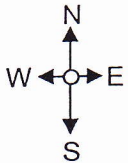
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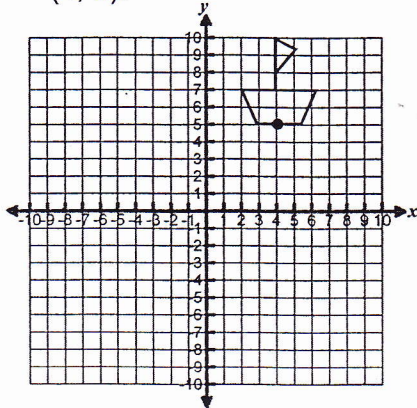
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## Buried Treasure!

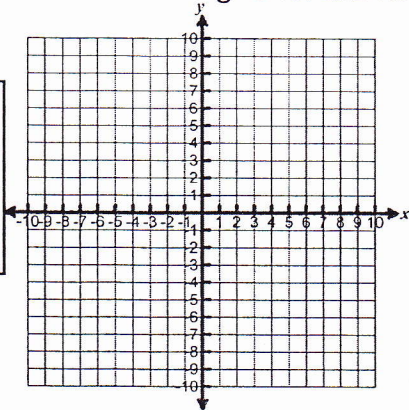
Use the following clues to find Captain Dave's buried treasure by translating the given figure and filling in the blanks. (Hint: Plot the point from the previous clue onto the grid for the next clue.)



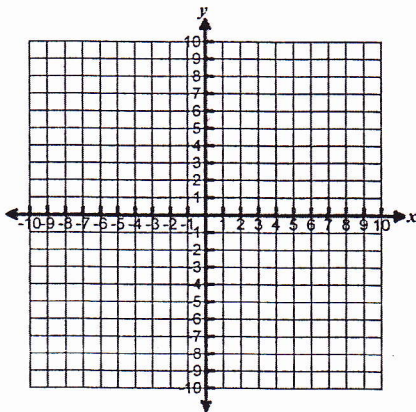
The keel of Captain Dave's sailboat starts at the point (4, 5).



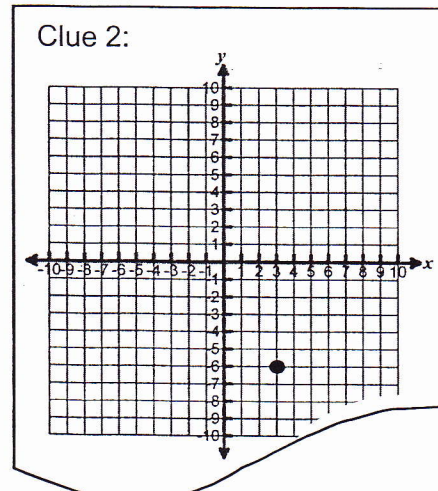
Clue 1:  
Sail 10 units to the west and 5 units to the south.



The new location of the keel of Captain Dave's sailboat is \_\_\_\_\_.



Clue 3:  
Sail 8.5 units to the west and 3 units to the north.

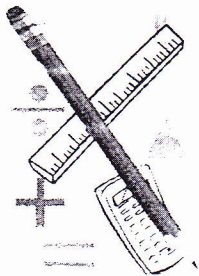


The buried treasure is located at \_\_\_\_\_.

He needs to sail \_\_\_\_\_ units to the \_\_\_\_\_ and \_\_\_\_\_ units to the \_\_\_\_\_.

### Communicating About Mathematics

How could you use patty paper to verify if your translations are correct?




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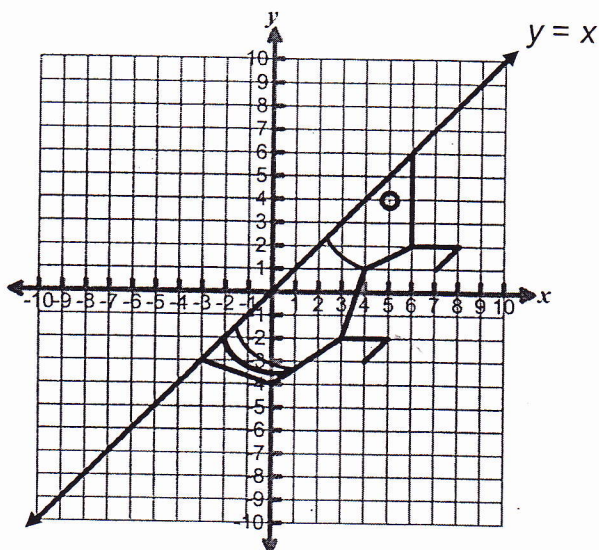


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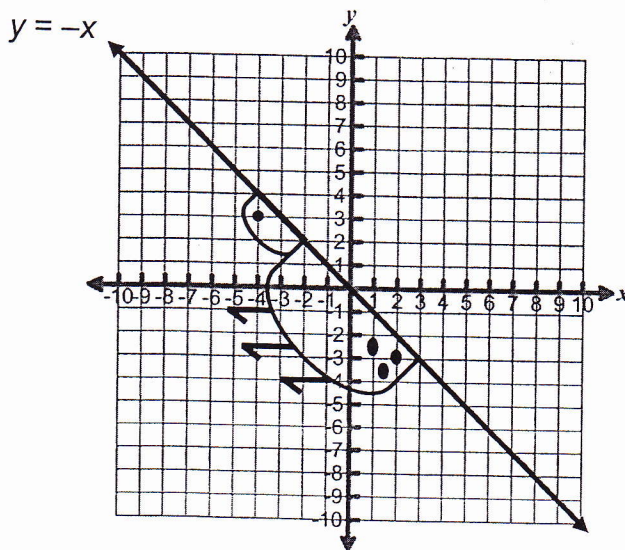
Student Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Bugs, Bugs, Bugs

1. Sketch the reflection of the given figure across the  $y = x$  line.

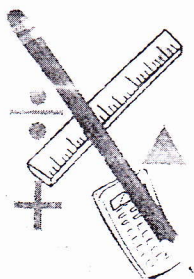


2. Sketch the reflection of the given figure across the  $y = -x$  line.



#### Communicating About Mathematics

Explain to your friend how you could use patty paper to verify that your reflections are correct?



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