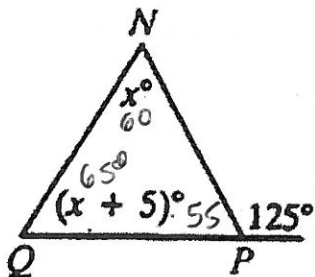


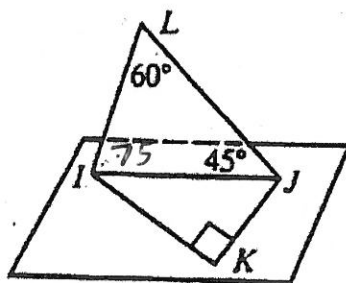
Name: _____ Period: _____ Date: _____

5.7 Triangle Inequality Conjecture and PARCC Review Practice Problems

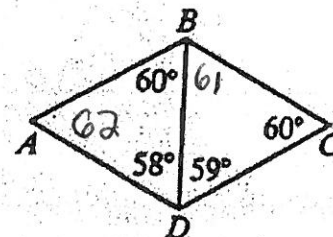
1. Each diagram is not drawn to scale. State which line segment is the longest in each diagram.



NQ



LJ



CD

2. Can each of the sets of side lengths construct a triangle? Yes or no.

1, 2, 3

No

5, 12, 13

Yes

10, 21, 10

No

52.1, 26.5, 25.7

Yes

3. Given the two side lengths, express the range of possible side lengths for the third side in order for a triangle to be constructed (use < symbol).

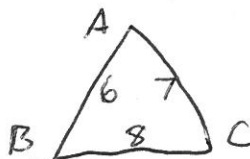
6, 11

$$5 < x < 17$$

1x, 10x

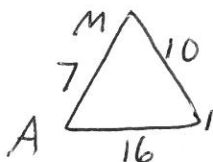
$$9x < \cancel{10x} < 11x$$

4. Given Triangle ABC with side lengths AB = 6, BC = 8, AC = 7, what angle is the largest?



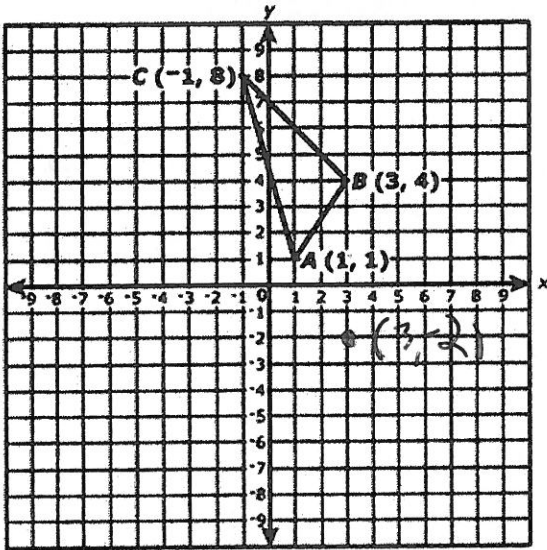
∠A

5. Given Triangle MIA with side lengths MI = 10, AI = 16, MA = 7, what angle is the largest?



∠M

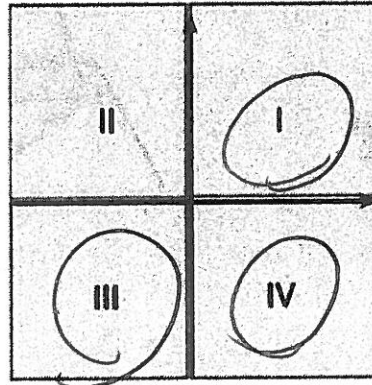
6. Triangle ABC is graphed in the coordinate plane with vertices $A(1, 1)$, $B(3, 4)$, and $C(-1, 8)$ as shown in the figure.



Part A

Triangle ABC will be reflected across the line $y = 1$ to form $\triangle A'B'C'$.

Select all quadrants of the xy -coordinate plane that will contain at least one vertex of $\triangle A'B'C'$.



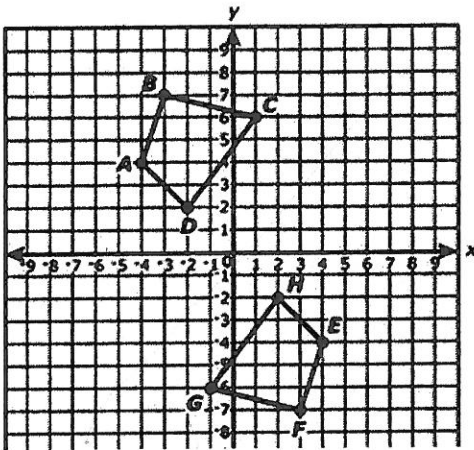
Part B

What are the coordinates of B' ?

Enter your answers in the boxes.

(,)

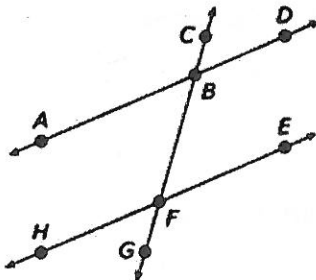
7. Quadrilaterals $ABCD$ and $EFGH$ are shown in the coordinate plane.



Part B

Quadrilateral $ABCD$ will be reflected across the x -axis and then rotated 90° clockwise about the origin to create quadrilateral $A'B'C'D'$. What will be the y -coordinate of B' ?

8. In the figure shown, \overleftrightarrow{CF} intersects \overleftrightarrow{AD} and \overleftrightarrow{EH} at points B and F , respectively.



Part A

- Given: $\angle CBD \cong \angle BFE$
- Prove: $\angle ABF \cong \angle BFE$

Select from the drop-down menus to support each line of the proof.

Statement: $\angle CBD \cong \angle BFE$ Reason:

Statement: $\angle CBD \cong \angle ABF$ Reason:

Statement: $\angle ABF \cong \angle BFE$ Reason: