Geo U2 SBAC Practice Name Key Date _____ Period ___

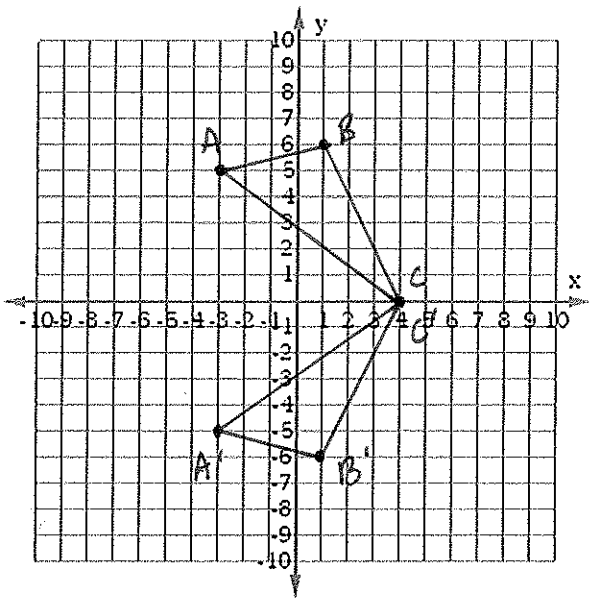
Part A: Congruence & Transformation [G-CO.7]

1. **Graph** triangle ABC with vertices A(-3, 5), B(1, 6), C(4, 0). **Reflect** triangle ABC across the *x*-axis to form triangle A'B'C'.

$A(-3,5) \rightarrow A'(-3,-5)$

$B(1,6) \rightarrow B'(1,-6)$

$C(4,0) \rightarrow C'(4,0)$



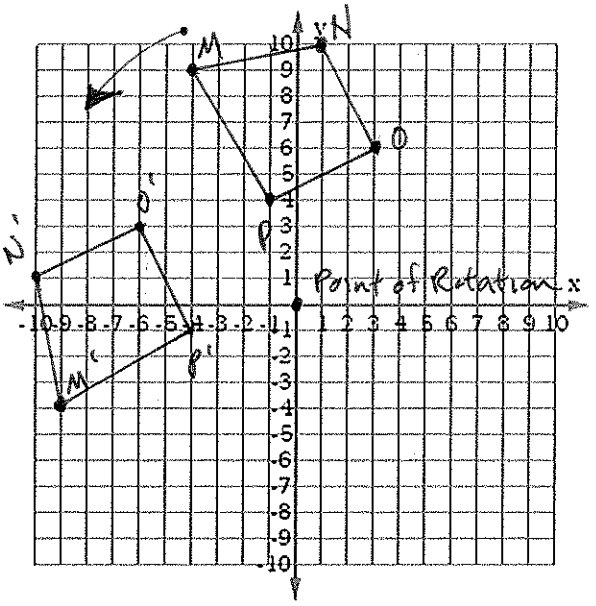
2. **Graph** quadrilateral MNOP with vertices M(-4, 9), N(1,10), O(3, 6), P(-1, 4). **Rotate** MNOP 90° around the origin counter-clockwise.

$M(-4,9) \rightarrow M'(-9,-4)$

$N(1,10) \rightarrow N'(-10,1)$

$O(3,6) \rightarrow O'(-6,3)$

$P(-1,4) \rightarrow P'(-4,-1)$



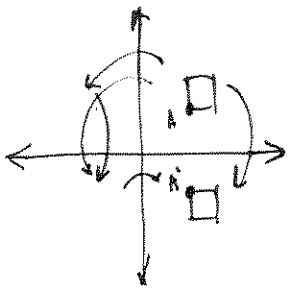
3. **Select** the pair of transformations that is the same as a reflection across the *x*-axis.

A) a rotation of 90° counter-clockwise and a reflection across the *x*-axis.

B) a rotation of 180° and a reflection across the *y*-axis.

C) a rotation of 180° and a reflection across the *x*-axis.

D) a rotation of 90° clockwise and a reflection across the *y*-axis.

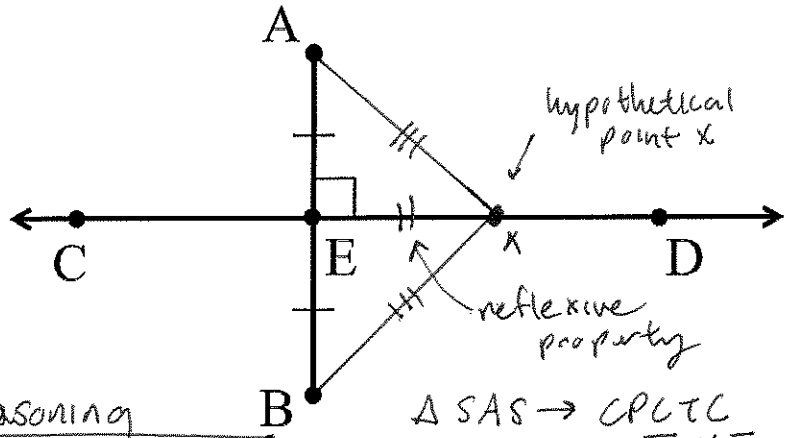


Part B: Triangles [G-CO.10]

4. Kyra claims that, given any segment $\overline{AB}$ with perpendicular bisector $\overleftrightarrow{CD}$, as shown…

… any point on line $\overleftrightarrow{CD}$ will be equidistant from points A and B.

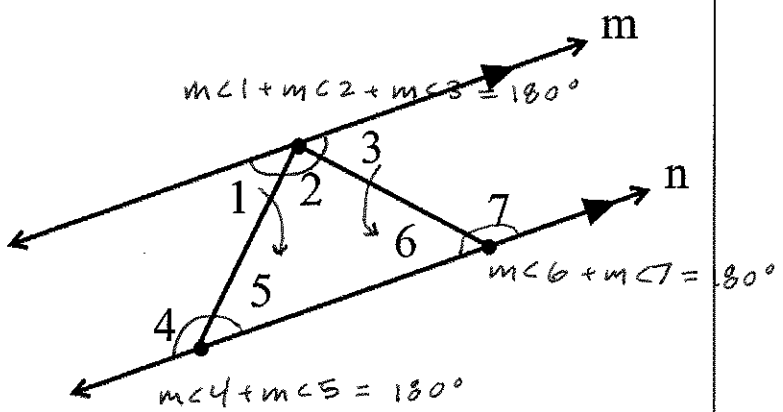
Prove Kyra's claim.



$\triangle$ SAS → CPCTC

statement	reasoning
$\overline{AE} \cong \overline{BE}$	definition of perpendicular bisector for $\overline{AX} \cong \overline{BX}$
$\angle AED \cong \angle BED$	definition of perpendicular bisector
$\overline{EX} \cong \overline{EX}$	reflexive property
$\triangle AEX \cong \triangle BEX$	Side - Angle - Side $\triangle$ congruence
$\overline{AX} \cong \overline{BX}$	Corresponding Parts of Congruent $\triangle$s are Congruent.

5. Given lines m and n are parallel, **prove** that the sum of the interior angles of the triangle shown ($m\angle 2 + m\angle 5 + m\angle 6$) sum to 180°.



statement	reasoning
$m\angle 1 + m\angle 2 + m\angle 3 = 180°$	definition of linear pairs / supplements
$m\angle 4 + m\angle 5 = 180°$	"
$m\angle 6 + m\angle 7 = 180°$	"
$m\angle 5 = m\angle 1$	alternate interior angles are congruent
$m\angle 6 = m\angle 3$	alternate interior angles are congruent
$m\angle 5 + m\angle 2 + m\angle 6 = 180°$	substitution ✓