

Name: KEY Date: _____ Per: _____
Transformations Review

Answer each question below, be sure to record your answer in the space provided:

___ 1) Which represents the image of $G(4, -3)$ after a reflection in the x-axis? *y changes*

(1) $G'(-4, -3)$ (2) $G'(-4, 3)$
(3) $G'(4, 3)$ (4) $G'(-3, 4)$

___ 3) What is the image of (x, y) after a translation of 3 units right and 7 units down? *+3 -7*

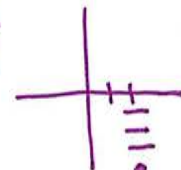
(1) $(x + 3, y - 7)$ (3) $(x - 3, y - 7)$
 (2) $(x + 3, y + 7)$ (4) $(x - 3, y + 7)$

___ 2) Which represents the image of $X(-3, -7)$ after reflection in the y-axis? *x changes*

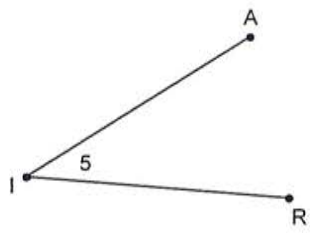
(1) $X'(-3, 7)$ (2) $X'(3, -7)$
 (3) $X'(3, 7)$ (4) $X'(7, 3)$

___ 4) Which of the following represent the coordinates of $A(2, -4)$ after a rotation of 90° ? *Counter clockwise*

(1) $A'(4, 2)$ (2) $A'(-4, 2)$
 (3) $A'(4, -2)$ (4) $A'(2, 4)$

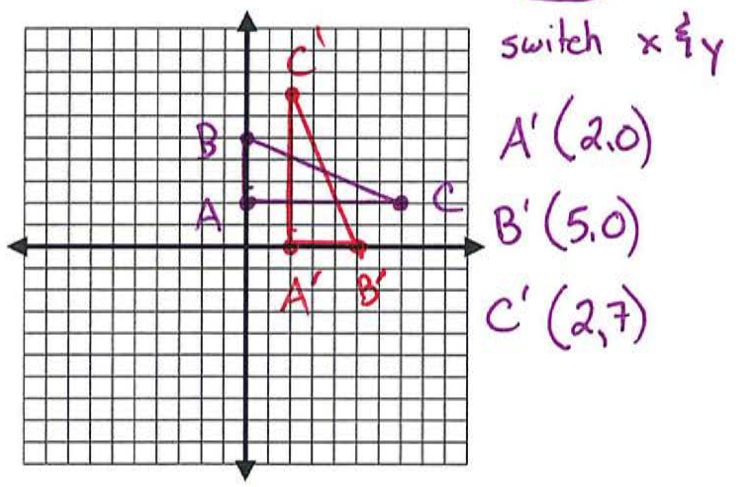


___ 5) Which choice below may **not** be used to name $\angle AIR$?

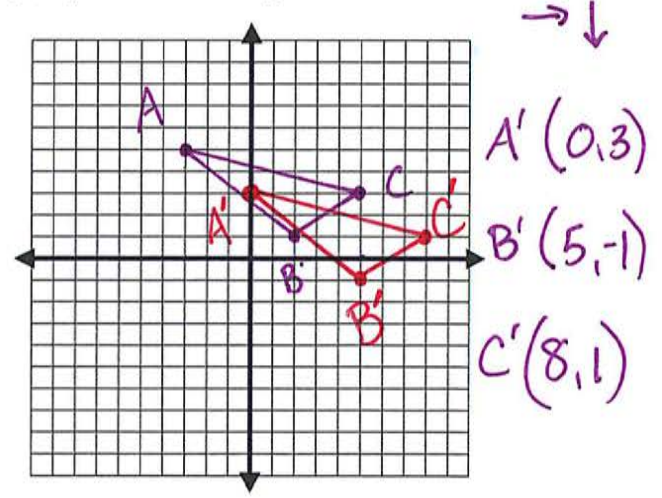


(1) $\angle RIA$ ✓ (2) $\angle I$ ✓
 (3) $\angle 5$ ✓ (4) $\angle RAI$

6) The vertices of $\triangle ABC$ are $A(0, 2)$, $B(0, 5)$, and $C(7, 2)$. Find the image of $\triangle A'B'C'$ under $r_{y=x}$.

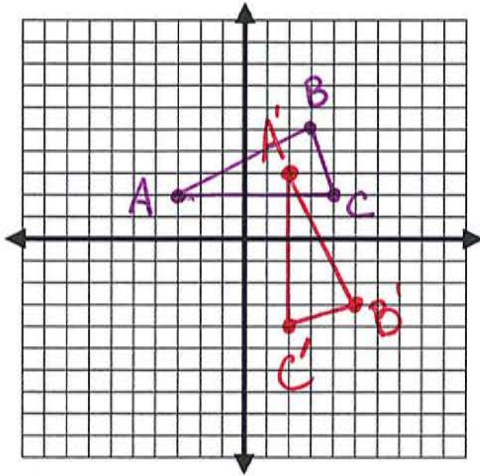


7) The vertices of $\triangle ABC$ are $A(-3, 5)$, $B(2, 1)$, and $C(5, 3)$. Find the image of $\triangle A'B'C'$ under $T_{3, -2}$.



8) The coordinates of the vertices of $\triangle ABC$ are $A(-3, 2)$, $B(3, 5)$, and $C(4, 2)$. Find the image of $\triangle A'B'C'$ under a counterclockwise rotation of 270° . (R_{270})

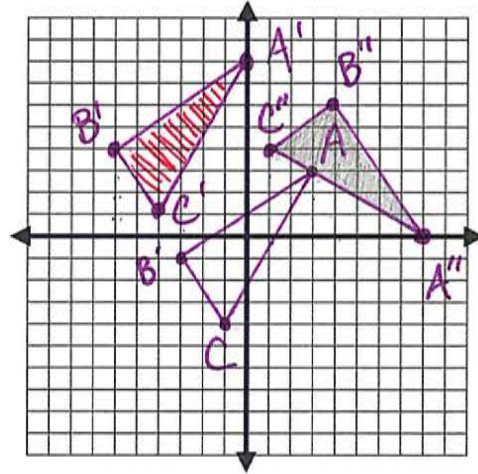
$$A'(2, 3) \quad B'(5, -3) \quad C'(2, -4)$$



9) Triangle ABC has vertices with $A(3, 3)$, $B(-3, -1)$, and $C(-1, -4)$. Graph and label $\triangle ABC$ and $\triangle A''B''C''$, the image of $\triangle ABC$ after

$$R_{-90} \circ T_{(-3, 5)}$$

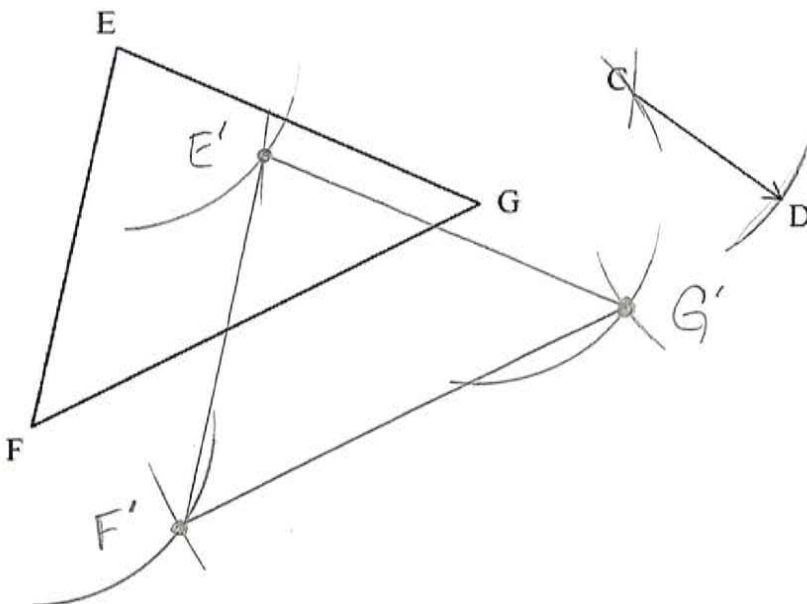
2nd 1st



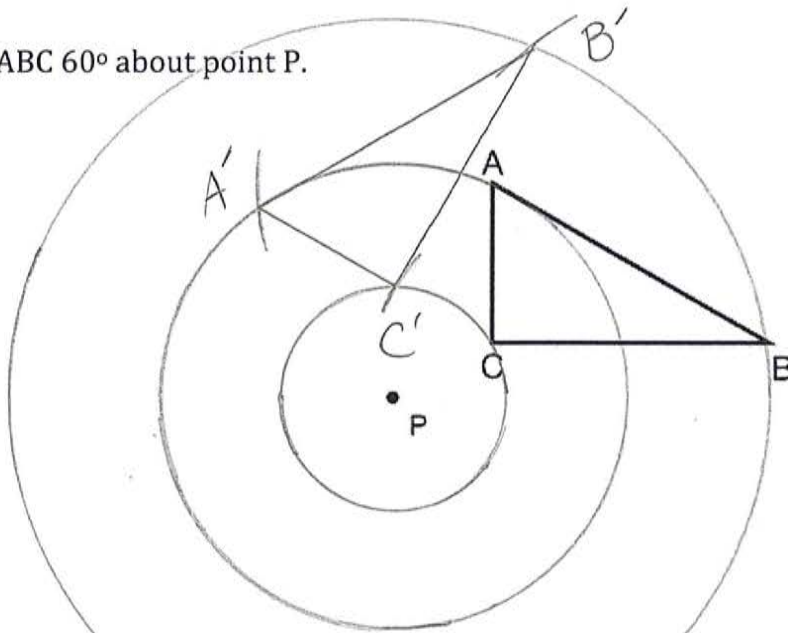
10) **Precisely** define each of the three rigid motion transformations identified below:

- $R_{C, 90}(\triangle ABC)$ Rotation around C counter-clockwise 90
- $T_{(-2, 5)}(\triangle ABC)$ Translation left 2 & up 5
- $r_{y=x}$ Reflection ~~across~~ across the line $y=x$

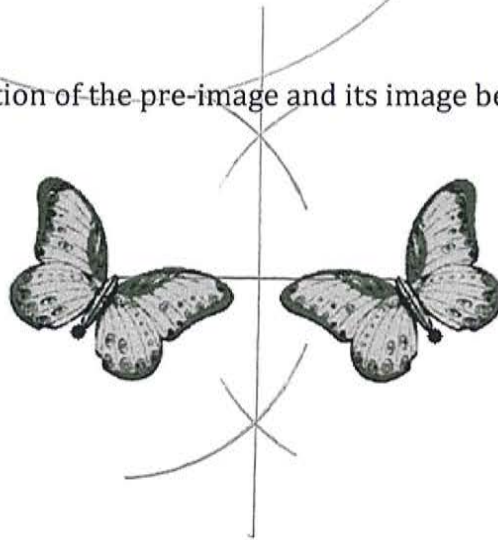
11) Translate $\triangle EFG$ along \overrightarrow{CD} , below.



12) Rotate $\triangle ABC$ 60° about point P.



13) Determine the line of reflection of the pre-image and its image below:



2 half circles more than half.
(\perp bisector)

Add to 180

14) If a pair of supplementary angles are in the ratio 3:6, determine the measure of each angle.

$$\begin{aligned} 3x + 6x &= 180 & 60 \text{ \& } 120 \\ 9x &= 180 \\ x &= 20 \end{aligned}$$

Add 2 90

15) If a pair of complementary angles are in the ratio 2:4, determine the measure of each angle.

$$\begin{aligned} 2x + 4x &= 90 & 30 \text{ \& } 60 \\ 6x &= 90 \\ x &= 15 \end{aligned}$$

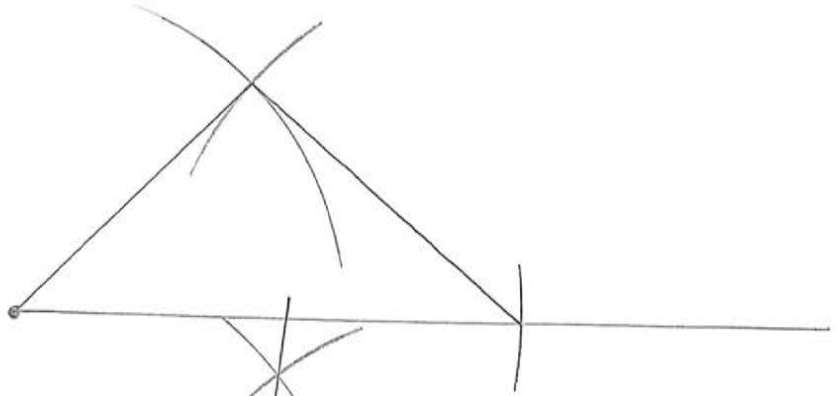
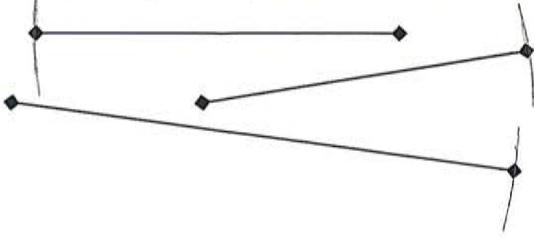
16) If a set of vertical angles can be represented by $2x - 5$ and $3x - 25$, respectively, determine the measure of each angle.

$$\begin{aligned} 2x - 5 &= 3x - 25 & 35 \text{ \& } 35 \\ 20 &= x \end{aligned}$$

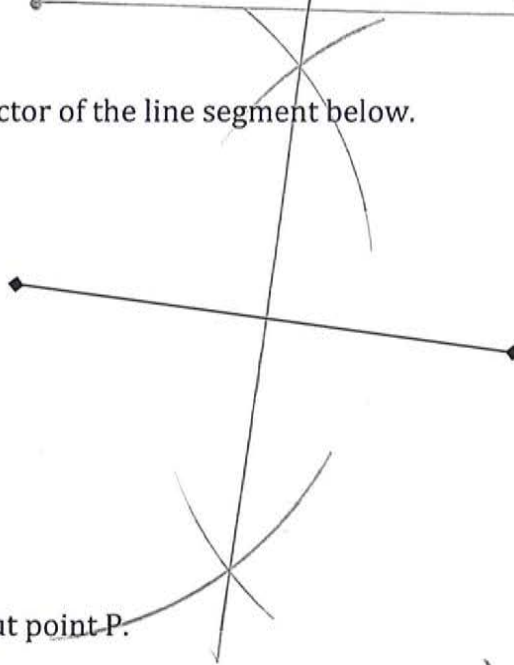
17) If points A, B, and C are collinear with $AB = 3x + 10$, $BC = 2x + 5$, and $AC = 4x + 30$, determine the value of x.

$$\begin{aligned} AB + BC &= AC \\ \text{A} \quad \text{B} \quad \text{C} \\ \text{---} \text{---} \text{---} \\ 3x + 10 + 2x + 5 &= 4x + 30 \\ 5x + 15 &= 4x + 30 \\ x &= 15 \end{aligned}$$

18) Using a compass, construct a triangle with the side lengths given below.



19) Determine the perpendicular bisector of the line segment below.



20) Rotate the figure below 180°, about point P.

