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Questions 1 & 2

1. $G(x, y) \rightarrow (x + 4, y - 3)$

   Find image A of (-3, -9)

   Find the pre-image of B'= (7, -1)

   $R_k(A' \rightarrow B)$, find k. [meaning, Reflection R over line k takes A' onto B. You will have to figure out what A' is first.]

2. $G(x, y) \rightarrow (x + a, y + b)$ $P = (-8, 3)$ and $P' = (14, -3)$ Find a and b.

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Questions 3 & 4

3. The vertices of triangle ΔABC are $A = (0,0), B = (2,1)\ and\ C = (-3,4)$. Transformation F translates pre-images 2 units down then reflects them across the y-axis. Find the coordinates of triangle $\Delta A'B'C'$.

4. $\Delta\ XYZ$ has vertices at $X = (5,2), Y = (4,0)\ and\ Z = (1,3)$. After a rotation about point P, $\Delta\ X'Y'Z$ has vertices $X' = (-1,-4), Y' = (0,-2)\ Z' = (3,-5)$. Find P as well as the angle of rotation.

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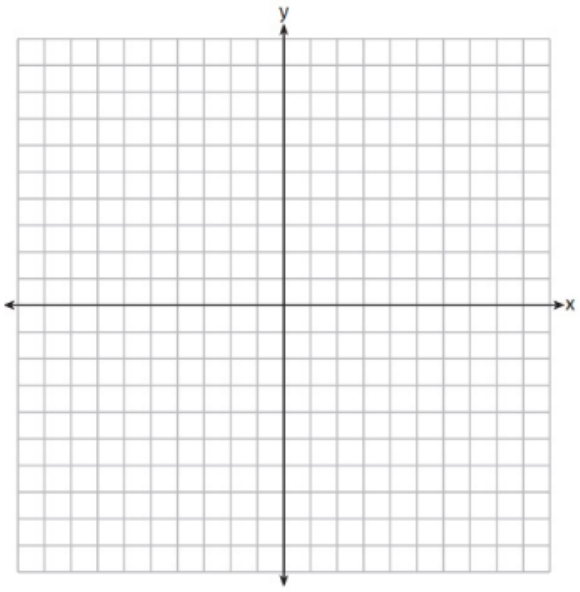
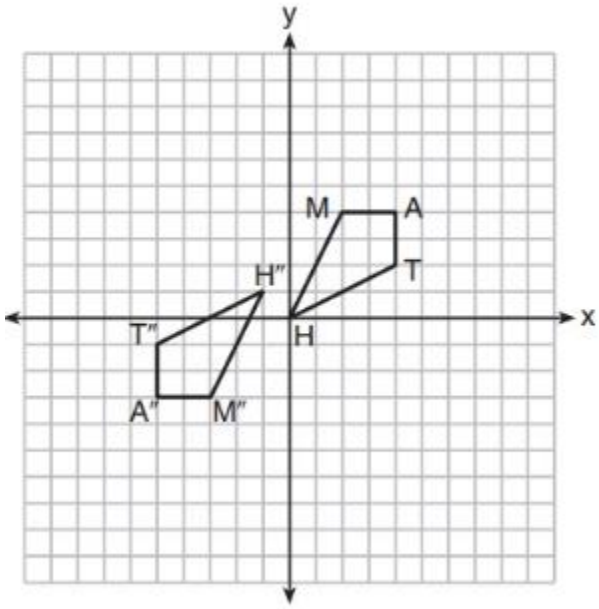
Questions 5 & 6

5. The coordinates of the endpoints of line segment AB are A(2,3) and B(5,–1). Determine the length of A′B′, the image of AB , after a dilation of ½ centered at the point P(-2, -4). [The use of the set of axes below is optional.]



6. Quadrilateral *MATH* and its image *M″A″T″H″* are graphed on the set of axes below.



Describe a sequence of transformations that maps quadrilateral *MATH* onto quadrilateral *M″A″T″H″*.