## Translations:



Translate the preimage 3 units down and 4 units right.


Reflect the preimage across the line $y=-2$.


$$
(x, y) \rightarrow(x-2, y+5)
$$



## Reflections:



## Rotations:

Rotate the preimage clockwise


Rotate the preimage $90^{\circ}$ counterclockwise about the origin.


Rotate the preimage $180^{\circ}$ clockwise about the origin.


## Dilations:

Dilate the preimage by a scale factor of 2 using W as the center of dilation.



Dilate the preimage by a scale factor of -2 using $X$ as the center of dilation.

Given the preimage (dashed) and image (solid), fiñd the center of dilation and scale factor.

Reflect the preimage across the


