

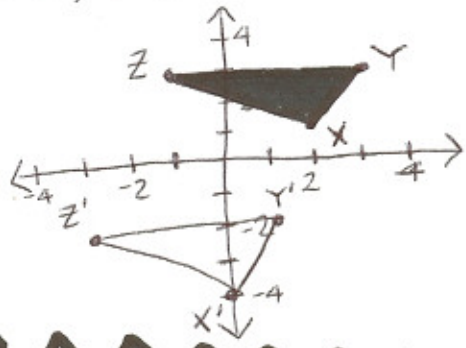
REVIEW SHEET CH 9

1 → Translations:



* translation under $(x, y) \rightarrow (x-2, y-5)$

$X(2, 1) \rightarrow (2-2, 1-5) = X'(0, -4)$
 $Y(3, 3) \rightarrow (3-2, 3-5) = Y'(1, -2)$
 $Z(-1, 3) \rightarrow (-1-2, 3-5) = Z'(-3, -2)$



* Write a rule to describe the translation $PQRS \rightarrow P'Q'R'S'$
 Use $P(-1, -2)$ & its image $P'(-5, -1)$
 Horizontal change: $-5 - (-1) = -4$
 Vertical change: $-1 - (-2) = 1$

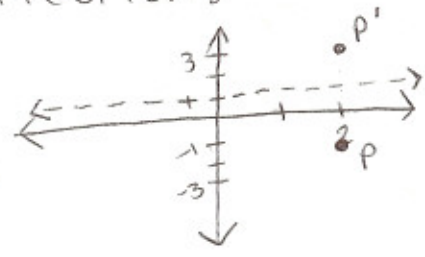
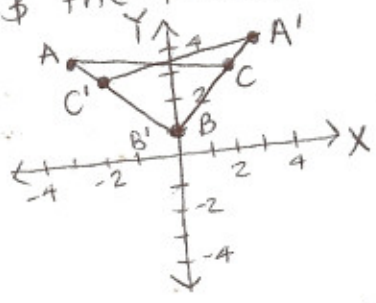
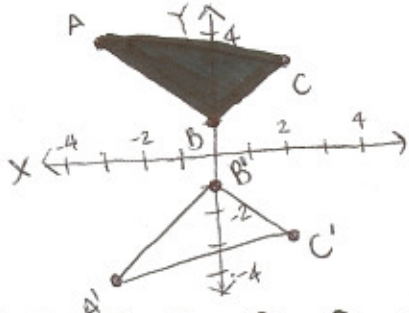
The rule is $(x, y) \rightarrow (x-4, y+1)$

2 → Reflections:

* If point $P(2, -1)$ is reflected across the line $y=1$, what are the coordinates of its reflection?

* Draw the reflection image of $A(-3, 4), B(0, 1), C(2, 3)$ across the x-axis.

& the y-axis.



3 → Rotations:

* Name the image of E for a 72° rotation about X



$360^\circ \div 5 = 72^\circ$

P is the image of E

* Name the image of P for a 216° rotation about X



$72^\circ \cdot 3 = 216^\circ$

N is the image of P

* Scale factor 3 to find coordinate of $P(2, 0)$

$P(2, 0) \rightarrow P'(3 \cdot 2, 3 \cdot 0) = P'(6, 0)$

4 → Symmetry:



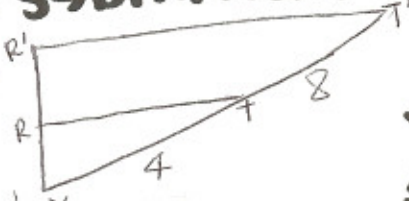
* 6 lines of symmetry.



* The equilateral Δ has rotational symmetry.

The angle of rotation is 120°

5 → Dilations:



$X' = X$
 $\frac{X'T'}{XT} = \frac{4+8}{4} = 3$

* The dilation has center X & scale factor 3

6 → Composition of Reflections:

