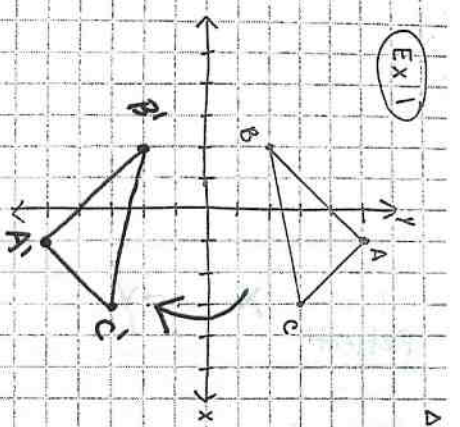


# Reflections - flip over an axis

EX 1

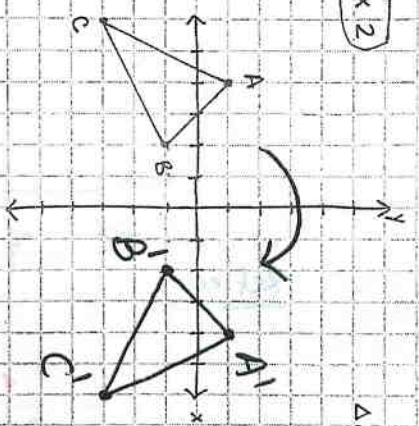


$\triangle ABC$  reflect over the  $y$ -axis  
( $y$ -values change)

$A(1,5)$   $B(-2,2)$   $C(3,3)$   
 $A'(-1,5)$   $B'(2,2)$   $C'(-3,3)$

$(x,y) \rightarrow (-x, y)$

EX 2

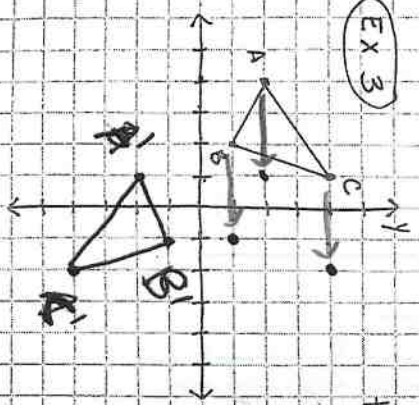


$\triangle ABC$  reflect over the  $x$ -axis  
( $x$ -values change)

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

$(x,y) \rightarrow (x, -y)$

EX 3

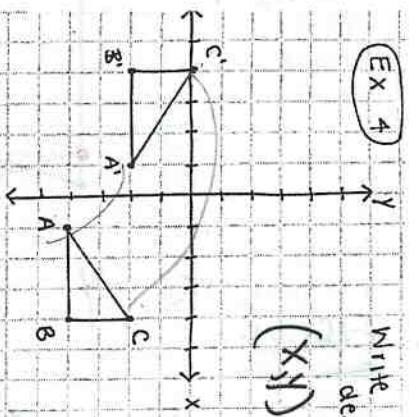


transform  $\triangle ABC$  using the following  
rule:  $(x,y) \rightarrow (x+3, -y)$

Right 3

$A(4,2)$   $B(-2,1)$   $C(1,-1)$   
 $A'(2,2)$   $B'(5,1)$   $C'(5,-1)$

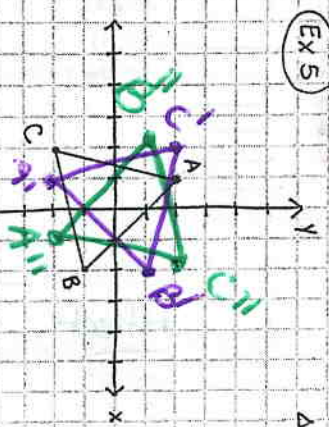
EX 4



Write the coordinate rule that describes  $\triangle ABC$ 's transformation.

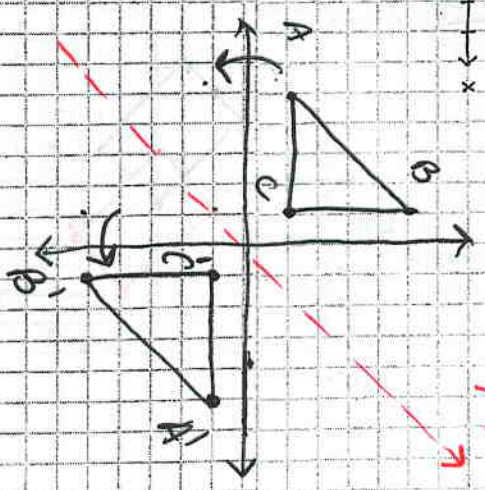
$(x,y) \rightarrow (-x, y+2)$

EX 5



$\triangle ABC$

$y=x$



- a)  $\triangle ABC \rightarrow \triangle A'B'C'$   
 $(x,y) \rightarrow (x, -y)$
- b)  $\triangle ABC \rightarrow \triangle A''B''C''$   
 $(x,y) \rightarrow (-x, y)$
- c)  $\triangle ABC \rightarrow \triangle A'''B'''C'''$   
 $(x,y) \rightarrow (-x, -y)$

flip over  $x$  &  $y$   
diagonal flip

7.2 Practice Reflection Problems

Name: \_\_\_\_\_

Complete the ordered pair rule that transforms the original polygon.

1.  $(x, y) \rightarrow (X, -Y)$

**Reflect**

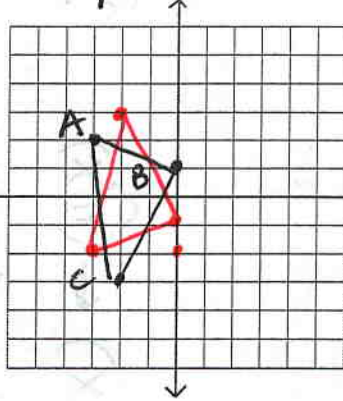
~~Rotate~~  $\triangle ABC$ :

$A(-3, 2)$

$B(0, 1)$

$C(-2, -3)$

over the  $x$ -axis.



2.  $(x, y) \rightarrow (-X, Y)$

**Reflect**

~~Rotate~~ trapezoid

$DEFG$ :

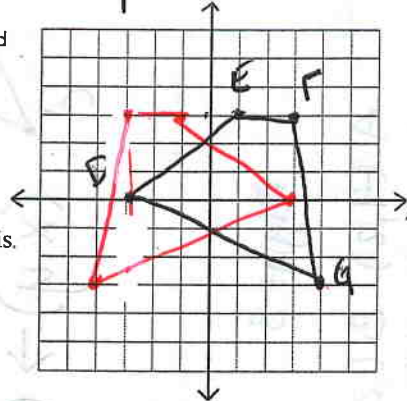
$D(0, -3)$

$E(1, 3)$

$F(3, 3)$

$G(4, -3)$

over the  $y$ -axis.



3.  $(x, y) \rightarrow (X, -Y)$

**reflect**

~~Rotate~~ parallelogram

$\square RSTU$ :

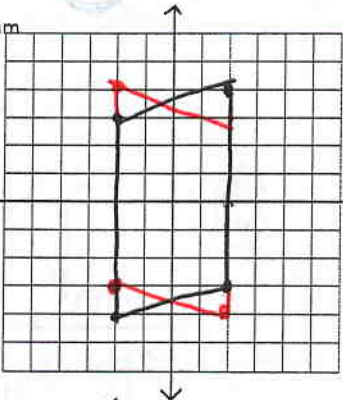
$R(-2, 3)$

$S(2, 7)$   $T(2, -4)$

$T(2, -3)$

$U(-2, 4)$

over the  $x$ -axis.



4.  $(x, y) \rightarrow (X, -Y)$

**reflect**

~~Rotate~~ square

$\square KLMN$ :

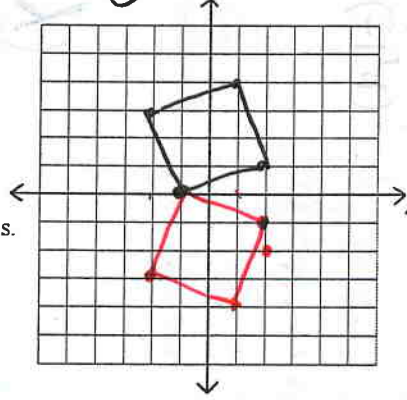
$K(-1, 0)$

$L(-2, 3)$

$M(1, 4)$

$N(2, 1)$

over the  $x$ -axis.



5.  $(x, y) \rightarrow (-X, -Y)$

**reflect**

~~Rotate~~ triangle

$\triangle FGH$

$F(-3, -1)$

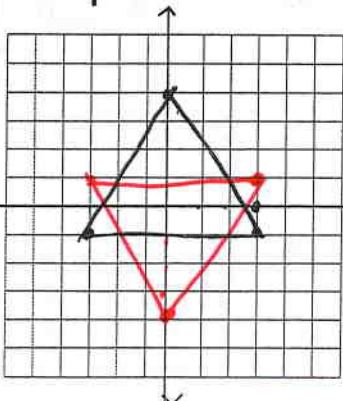
$G(0, 4)$

$H(3, -1)$

over the  $x$ -axis.

and then the

$y$ -axis.



6.  $(x, y) \rightarrow ( \quad , \quad )$

**reflect**

~~Rotate~~ quadrilateral

$\square QRST$

$Q(-3, 2)$

$R(-1, 4)$

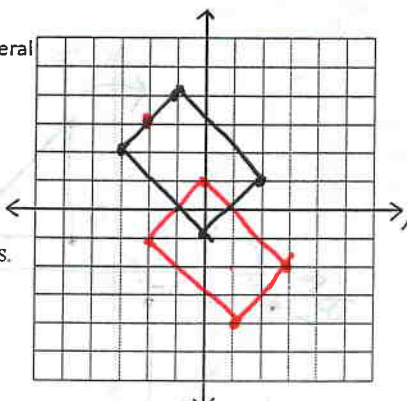
$S(2, 1)$

$T(0, -1)$

over the  $y$ -axis.

and then the

$x$ -axis.



Reflections - flip over an axis

flip over x axis