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Geometry Unit 4 Task "Living Room Furniture"

Criterion B: Patterns and C: Communications

After moving into a new apartment, the Thompsons decided on the layout below for their living room. (The distance between gridlines is 1 foot.) Note the four corner points of each piece of furniture in the diagram below:

Living Room Furniture Layout (Before)

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Piece of Furniture	Corner 1 Coordinates	Corner 2 Coordinates	Corner 3 Coordinates	Corner 4 Coordinates
Sofa	(-9,-1)	(-6,-1)	(6,-9)	(-9,-9)
Coffee Table	(-5,-3)	(-3,-3)	(-3,-7)	(-5,-7)
End table	(-8,4)	(-6,4)	(-6,2)	(-8,-2)
Chair	(-9,7)	(-6,7)	(-6,4)	(-9,4)
Lamp	(-9,9)	(-8,9)	(-8,8)	(-9,8)
Bookcase	(2,9)	(9,9)	(9,8)	(2,8)
Area Rug	(-2,3)	(3,3)	(3,-3)	(-2,-3)
Tv stand	(8,2)	(9,2)	(9,-2)	(8,-2)

Directions to Redecorate the Living Room!!

Write the rule of the Transformation.

T<0,-3>
Describe the change in the coordinates.
subtract 3 from y coord.
Write the coordinate change as a general rule. $(X, U) \rightarrow (X, U-3)$
2. Translate the chair by the vector (3,2). Graph on your Before Layout, label and shade. Write the rule of the Transformation.
Describe the change in the coordinates. add 3 to X-(OOVd.) add 2 to y-(OOVd.)
Write the coordinate change as a general rule. $(X_1U) \rightarrow (X+3, U+2)$
3. Rotate the book case 90° clockwise. Graph on your Before Layout, label and shade. Write the rule of the Transformation.
R270° Or R90° CIOCKWISE Describe the change in the coordinates. SWITCH AND NEGATE NEW Y-WORD.
Write the coordinate change as a general rule.
$(x,y) \rightarrow (y,x)$
4. Reflect the coffee table over the line $y = -x$. Graph on your Before Layout, label and shade. Write the rule of the Transformation.
V = -X
Describe the change in the coordinates.
switch and negate both
Write the coordinate change as a general rule.
$(X,Y) \rightarrow (-Y,-X)$
5. Dilate the Area Rug by a factor of ½ . Graph on your Before Layout, label and shade. Write the rule of the Transformation.
$\sum y_0$
Describe the change in the coordinates.
Describe the change in the coordinates. MUHINU X & U (OVO), by 1/2 (OV + by 2) Write the coordinate change as a general rule.
$(x,y) \rightarrow (ax, by)$

1. Translate the end table by the vector (0, -3). Graph on your Before Layout, label and shade.