

KEY

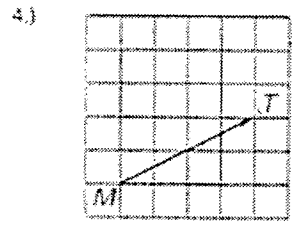
Translations!

Transformations Day 1 Homework!

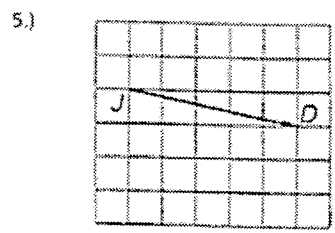
Use coordinate notation to describe the translation.

- 1.) 5 units left and 2 units down $(x, y) \rightarrow (x-5, y-2)$
- 2.) 3 units down $(x, y) \rightarrow (x, y-3)$
- 3.) 10 units right and 8 units up $(x, y) \rightarrow (x+10, y+8)$

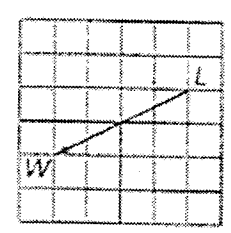
Name the vector and write its component form.



\vec{MT}
 $\langle 4, 2 \rangle$



\vec{JD}
 $\langle 5, -1 \rangle$



\vec{LW}
 $\langle -4, -2 \rangle$

Given $\triangle ABC$ with vertices $A(-2, 4)$, $B(6, 2)$, and $C(3, -2)$ is translated to $\triangle A'B'C'$. Determine the translation using a vector in component form, and determine the coordinates of the remaining vertices.

7.) $A'(3, -2)$

$A(-2, 4)$
 $A'(3, -2)$
 $\langle 5, -6 \rangle$
 $-2+x=3 \quad 4+y=-2$
 $x=5 \quad y=-6$
 $B'(11, -4)$
 $C'(8, -8)$

8.) $C(3, -2)$
 $C'(3, 4)$

$\langle 0, 6 \rangle$
 $-2+x=4$
 $x=6$
 $A'(-2, 10)$
 $B'(6, 8)$

9.) $A(-2, 4)$
 $A'(-5, 5)$

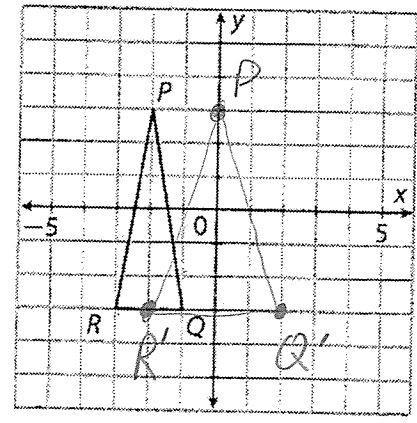
$\langle -3, +1 \rangle$
 $-2+x=-5$
 $x=-3$
 $B'(3, 3)$
 $C'(0, -1)$

Draw the image of each figure under the given transformation. Determine if the transformation is a rigid motion or not. Justify using the distance formula and angle measures.

10.)

$(x, y) \rightarrow (2x + 4, y)$
 $P(-2, 3) \rightarrow P'(-0, 3)$
 $R(-3, -3) \rightarrow R'(-2, -3)$
 $Q(-1, -3) \rightarrow Q'(2, -3)$

NOT a rigid motion
 $RQ = 2 \quad R'Q' = 4$



11.)

$$(x, y) \rightarrow (0.5x, y - 4)$$

$$D(-4, 3) \rightarrow D'(-2, -1)$$

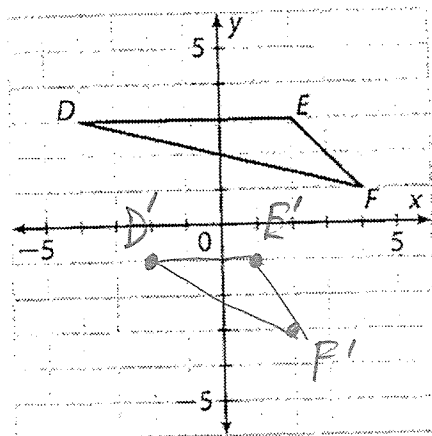
$$E(2, 3) \rightarrow E'(1, -1)$$

$$F(4, 1) \rightarrow F'(2, -3)$$

Not a rigid motion

$$DE = 6 \quad D'E' = 3$$

$$DE \neq D'E'$$



p60
 (13)

$$\langle 2, -5 \rangle$$

(15) Slopes of AA' and BB' are incorrect.

(16) This vector begins at F but ends at E' .
 Vector should terminate at F' .

(20)



$$\langle 6, 1 \rangle$$

Additional homework problems: Page 60 #s 6,7,13,15,16,20

Read pp 66-69

Translation HW Key

