

1. Name the plane represented by the back of the box. WME
2. Name the intersection of  $\overline{WR}$  and  $\overline{MW}$ . Point W
3. Name the intersection of Planes H ARB and CEH. HA
4. Which two planes intersection to form  $\overline{CW}$ ? CEM & CWD
5. Which two segments intersect at point E? EH & EM
6. Name another point coplanar with points E, B, and H. M

## Chapter 9: Transformations

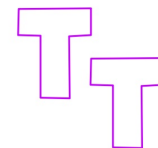
### Transformation:

Change in position, shape, or size of an object.

#### Rotation



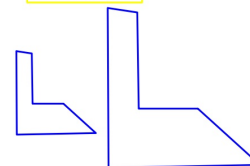
#### Translation (Slide)



#### Reflection (Flip)



#### Dilation



**Preimage:** The original figure

**Image:** The figure after a transformation

**Isometry:** When preimage and image are congruent (same size and shape)

Does each transformation appear to be an isometry?

1. Preimage

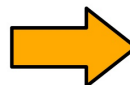


Image

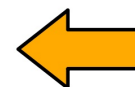


No, Because they've changed size

2. Preimage



Image



Yes, they are reflections of each other

Preimage      Image      *Prime*

Orientation:  
 Preimage: ABCD CCW  
 Image: A'B'C'D' CW

In Symbols:  $ABCD \rightarrow A'B'C'D'$   
 "maps onto"

Name the images of  $\angle B$  and  $\overline{CD}$

$\angle B'$  is the image of  $\angle B$   
 $\overline{C'D'}$  is the image  $\overline{CD}$

List the part that corresponds to each:

- $\overline{A'B'}$  corresponds to  $\overline{AB}$
- D corresponds to  $D'$

The blue figure is the preimage and the red figure is the image.

Place the letters in the proper location on the image.

List two pairs of corresponding sides  $\overline{AR}$  corresponds w/  $\overline{A'R'}$   
 and one pair of corresponding angles.  $\angle W \leftrightarrow \angle W'$

### Section 9-1:

Translation: A slide.

All points on the preimage are mapped the same distance and the same direction.

The size and orientation remain unchanged.

A translation in symbols looks like this:

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

In words this means:

1 RIGHT 4 DOWN

$\triangle EFG$  has the following coordinates:

E (4,9) F(-7,1) G(0,3)

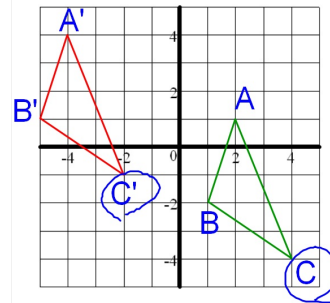
$\triangle EFG$  is translated according to the following:

$$(x, y) \rightarrow (x - 4, y + 11)$$

State the coordinates of the image.

$E' (0, 20)$   
 $F' (-11, 12)$   
 $G' (-4, 14)$

Write a rule to describe this translation



6 left and 3 up

$$(x, y) \rightarrow (x - 6, y + 3)$$

Write a rule to describe the following translation.

$$M(14, -12) \rightarrow M'(-2, -5)$$

$$(x, y) \rightarrow (x-16, y+7)$$

another example

$$Q(-6, 23) \rightarrow Q'(27, -8)$$

$(x, y) \rightarrow (x+33, y-31)$

You can now complete Hwk #1.

You'll need a sheet of graph paper

Correction to Hwk #1 problems.

#s 2, 3, 5, 7, 9, 11, 13, 18, 22, 28

#28 not  
#18 again.

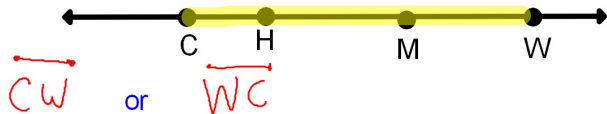
Hwk #1 is due on Friday

## Sec 1-4 Segments, Rays, Parallel Lines, and Planes

**Segment:** Part of a line that has two endpoints (no arrows)

Named by: Stating the two endpoints, in any order, with the symbol for a segment above the letters.

Example: Name the segment highlighted below.



**Ray:** Part of a line that has one endpoint and continues forever in one direction (one arrow)

Named by: Stating the the endpoint first then any other letter in the direction of the ray with the symbol for a ray above the letters.

Example: Name the two rays highlighted below.

