

Chapter 14 Review

Homework

Worksheet – Practice 57

Excluding 5, 10, 17

Do you know the definitions of ...

Function?	
Domain and range?	
Mapping?	
Pre-image and Image?	
One-to-one Mapping?	
Transformation?	
Isometry?	

Do you know the definitions of ...

Reflection?	
Vector?	
Translation?	
Glide Reflection?	
Rotation?	
Dilation?	
Expansion?	
Contraction?	

Do you know the definitions of ...

Composite Mapping?	
Inverse Mapping?	
Identity Mapping?	
Product of a Mapping?	
Symmetry?	
Line Symmetry?	Line of Symmetry?
Point Symmetry?	Point of Symmetry?
Rotational Symmetry?	Symmetry Angle?
Translational Symmetry?	Vector of Symmetry?
Glide Reflection Symmetry?	

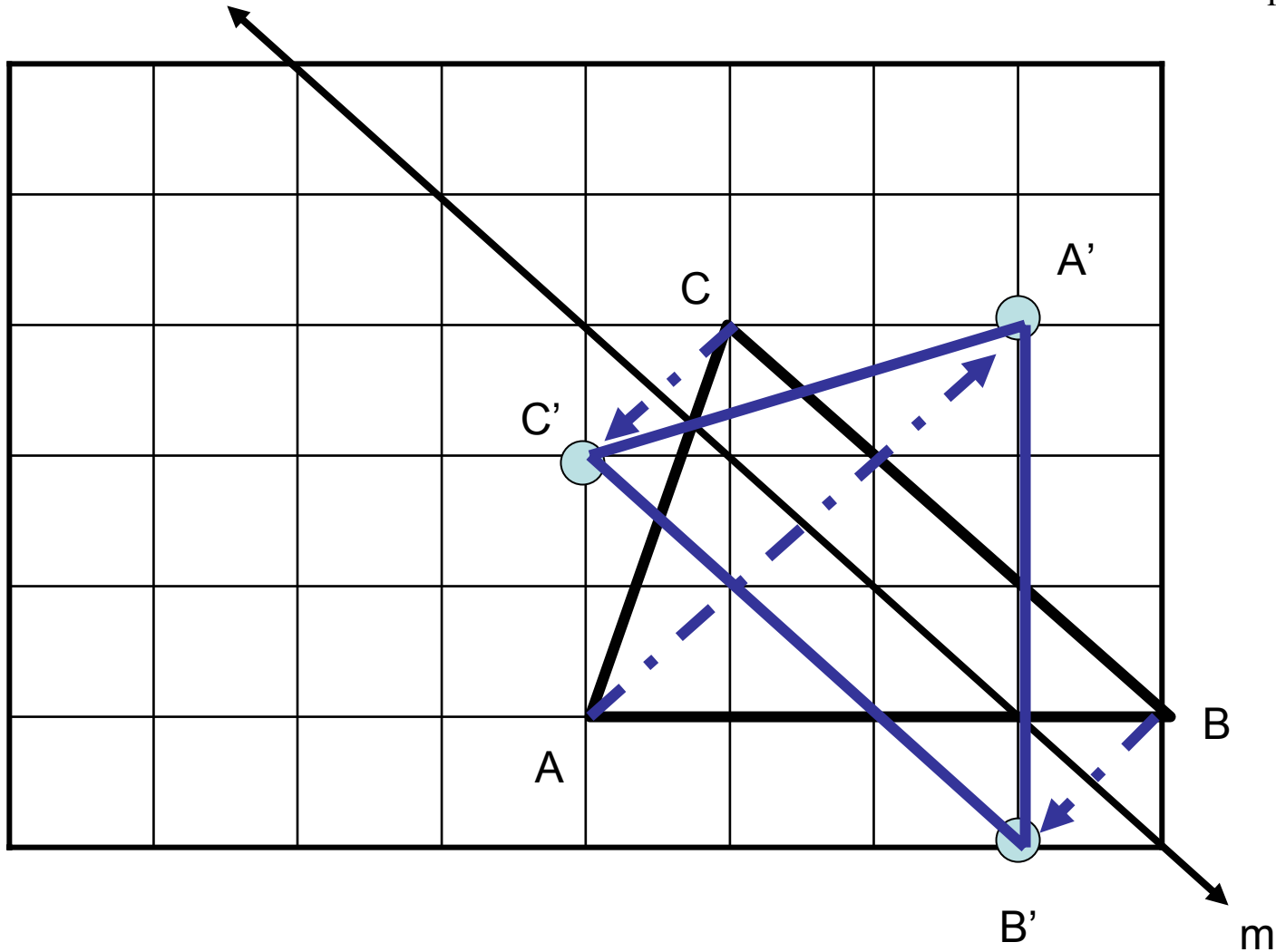
Do you know how to ...?

- Determine the image given the pre-image, or the pre-image given the image, of a:
 - Transformation?
 - Reflection?
 - Translation?
 - Glide Reflection?
 - Rotation?
 - Dilation?
 - Composite Mapping?

Do you know how to ...?

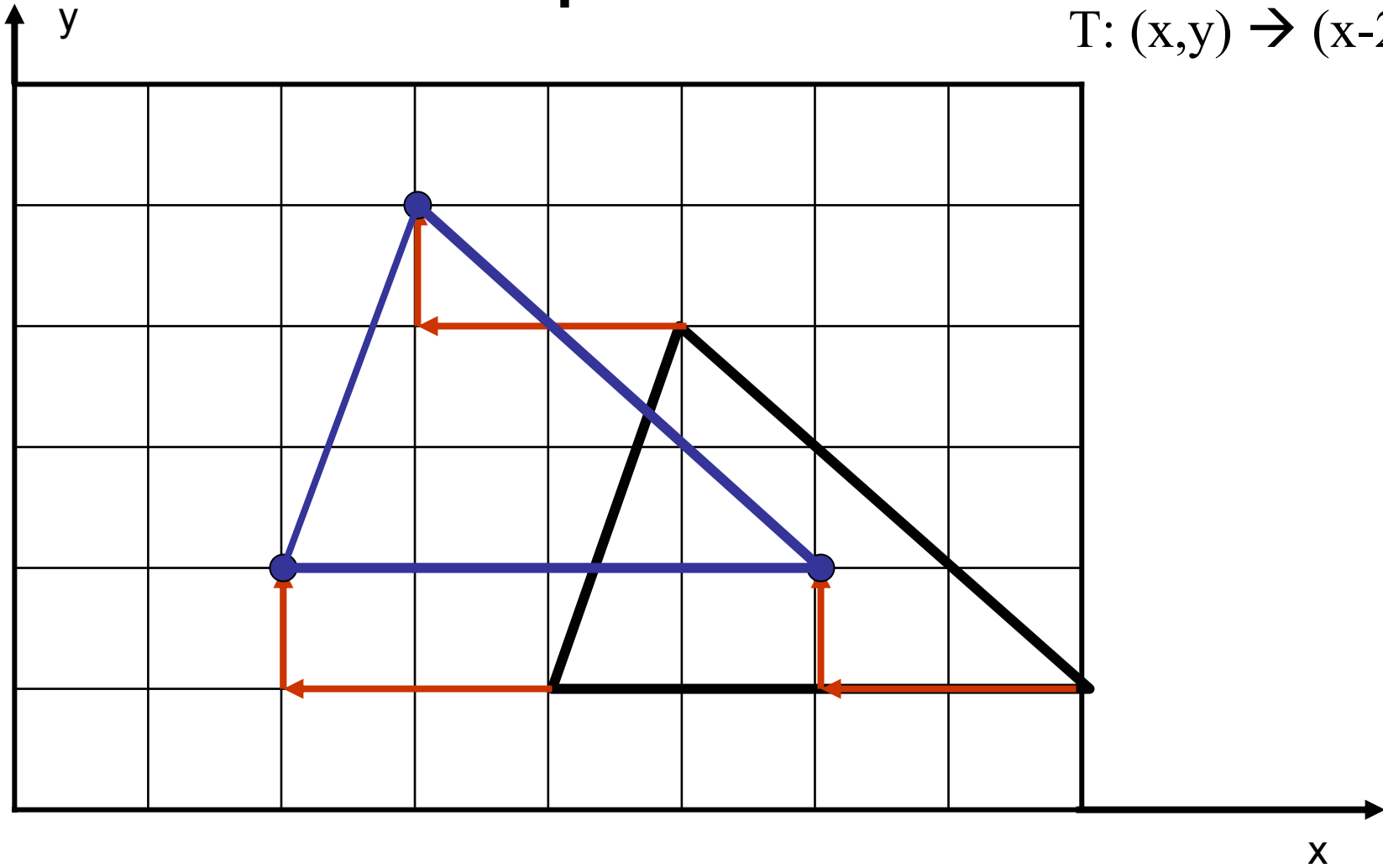
- Determine an Identity mapping?
- Determine an inverse of a mapping?
- Determine if an object has:
 - Line symmetry?
 - Point symmetry?
 - Rotational symmetry?
 - Translational symmetry?

Sample Problems $R_m \Delta ABC$



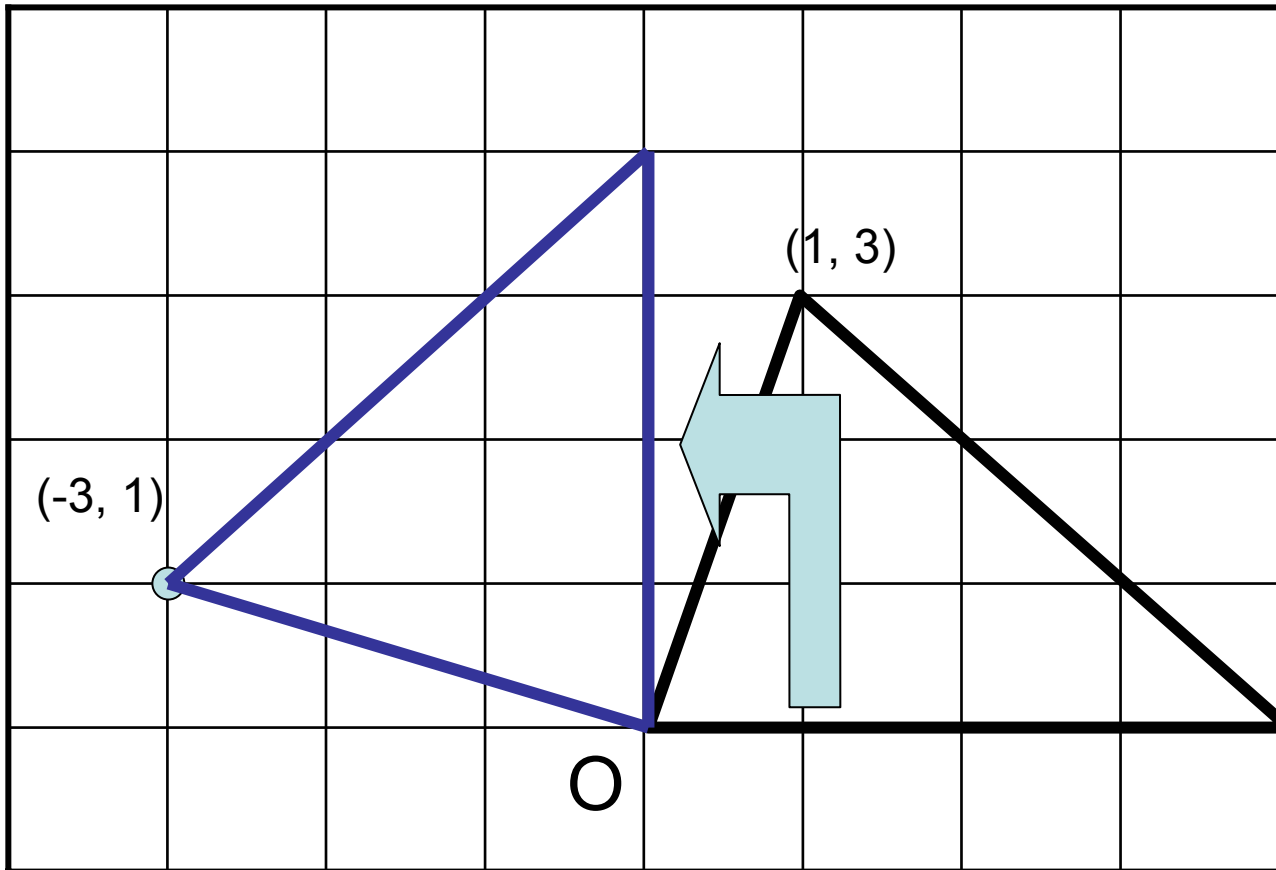
Sample Problems

$$T: (x,y) \rightarrow (x-2, y+1)$$



Sample Problems

27. $\mathcal{R}_{O, 90}$



Practice Problems

- If $M: (x, y) \rightarrow (3x+1, 2y)$, then $M: (2, 3) \rightarrow ?$
- Is M above an isometry?
- If m is the line $y = 1$, then:
 - $R_m: (3, 2) \rightarrow ?$
 - $R_m: (2, 1) \rightarrow ?$
- $\mathcal{R}_{O, 90}: (3, -2) \rightarrow ?$
- If $T: (x, y) \rightarrow (x - 4, y - 2)$, then
 - $T: (-1, 3) \rightarrow ?$
 - $T^{-1}(x, y) \rightarrow ?$

Practice Problems

- $D_{O,2} : (4, 1) \rightarrow ?$
- Is D above an isometry?
- $D_{O,-1/4} : (4, 8) \rightarrow ?$
- If R_x is a reflection over the x -axis and $T : (x, y) \rightarrow (x + 2, y - 1)$ then:
 - $R_x \circ T : (2, 1) \rightarrow ?$
 - $T \circ R_x : (2, 1) \rightarrow ?$
 - $T^3 : (2, 1) \rightarrow ?$

Practice Problems

- Given $\triangle ABC$ is an equilateral triangle, points D , E , and F are midpoints, and point P is the intersection of the altitudes:
 - Determine all lines of reflection
 - Determine all points of rotational symmetry and all of their associated symmetry angles.

