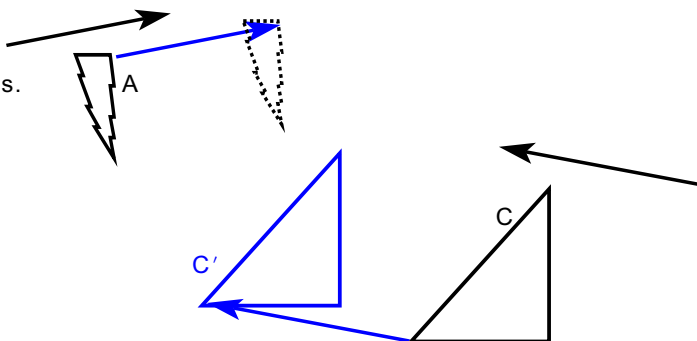
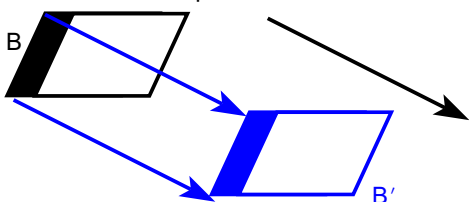
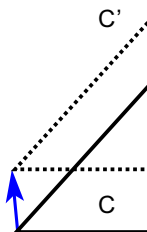
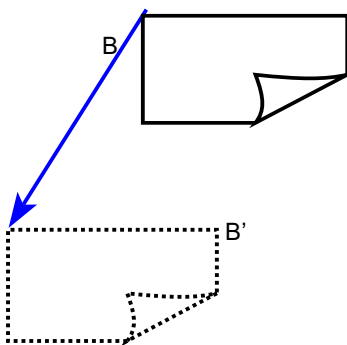
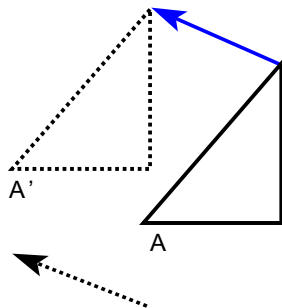


TRANSLATION:

- E1. Slide (translate) each figure according to the arrows. Outline the new position.

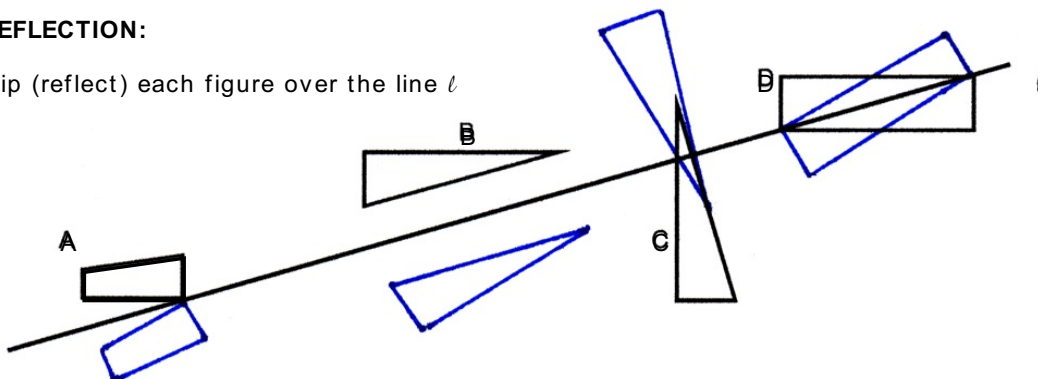


- E2. Find the vector (arrow) of translation that takes figure A to A'; do the same, for B to B' and for C to C'.

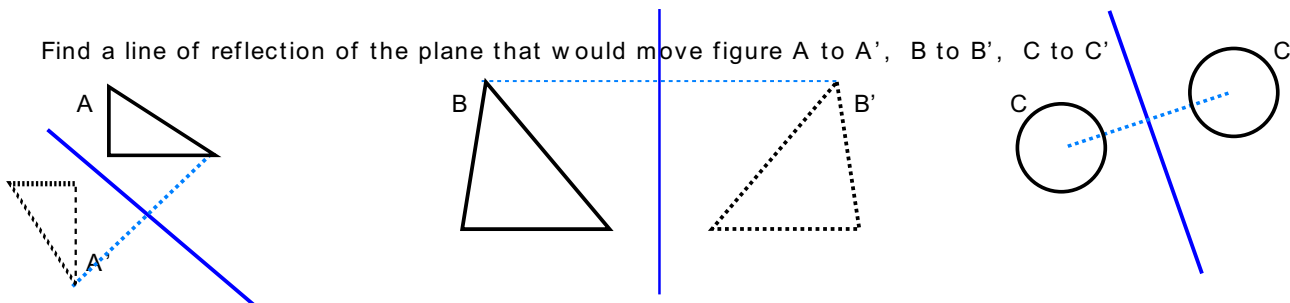


REFLECTION:

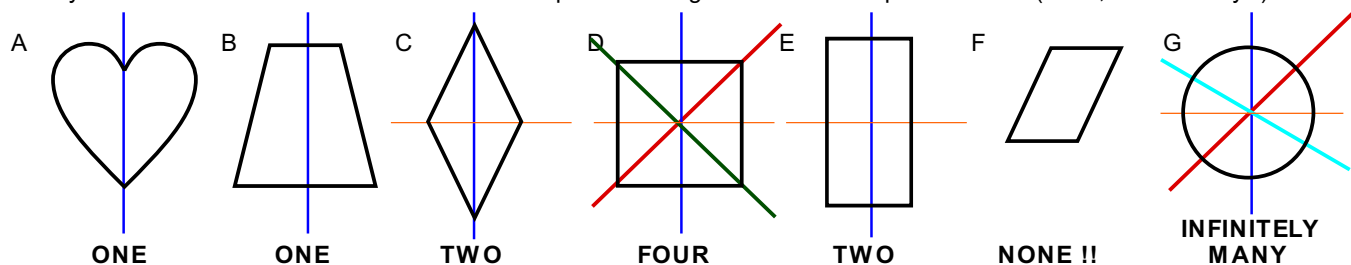
- E3. Flip (reflect) each figure over the line ℓ



- E4. Find a line of reflection of the plane that would move figure A to A', B to B', C to C'

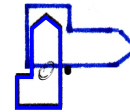
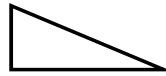
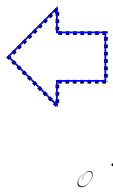


- E5. Can you find a line of reflection that would put each figure back on top of itself? (If so, how many?)



ROTATIONS:

- E6. Rotate each figure about the point O according to the given angle and direction.



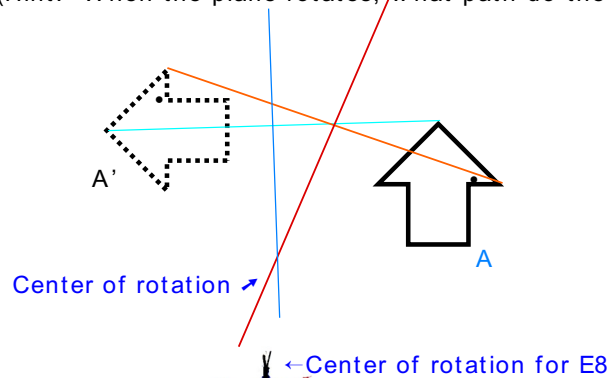
A. 90° (counterclockwise)

B. 180°

C. 270°

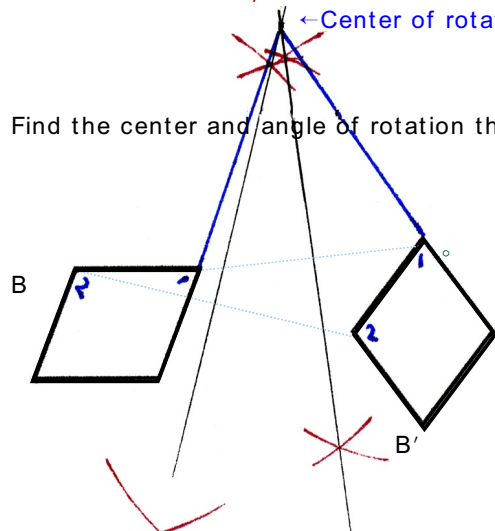
Sorry this wasn't supposed to be so Jammed !

- E7.* Find the center of rotation that takes figure A to A'. What is the angle of rotation? 90°
(Hint: When the plane rotates, what path do the points follow?)



The angle of rotation SHOULD be 90° since the arrow turned from pointing straight up to pointing left!

- E8.* Find the center and angle of rotation that takes figure B to B'.



The red arcs locate perpendicular bisectors of segments joining corresponding points (1&1, and 2&2— shown blue). Those perpendicular bisectors meet at the center of rotation, because the points are ALL rotating around ONE center.

The deep blue lines show us the angle through which the point labelled "1" rotated. It measures close to 55° .

- E9. Identify the type of transformation that takes the dotted figure to each of the results, A, B, C, D, E & F.



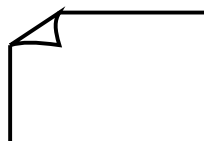
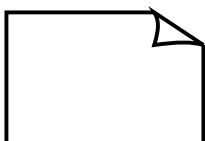
A. Reflection



B. Reflection

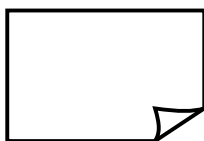
C. Rotation

D. Translation



E. Translation

F.* Glide-reflection



See Self-Test answers for similar examples with better illustrated answers.