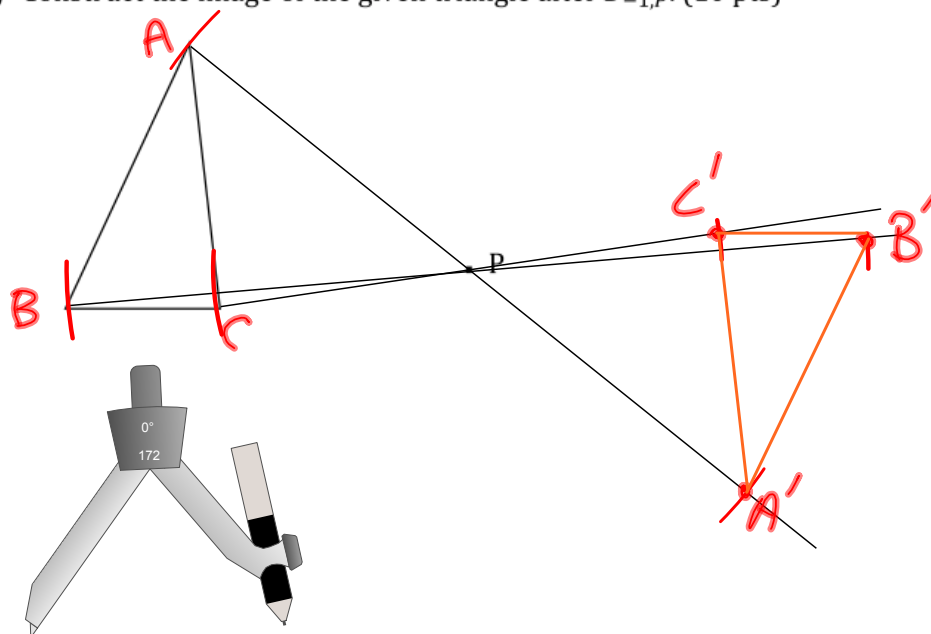


Exam 13

1) Construct the image of the given triangle after $D_{-1,P}$. (10 pts)



2) Is the image from #1 isometry? If yes, direct or opposite? Explain. (5 pts)

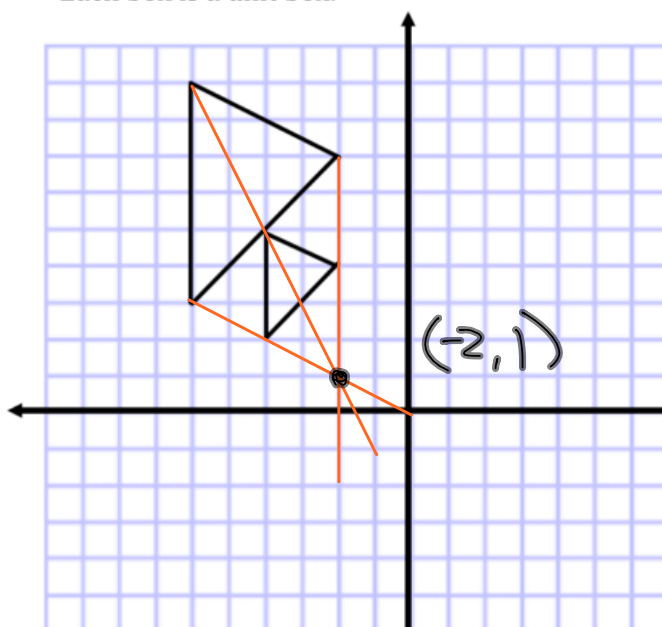
yes, it is an isometry. The point reflection kept its distances, which led keeping its original size.
It is direct b/c orientation is kept.

- 3) State two other single transformations that result in the same image as dilation by a factor of -1.
(10 pts)

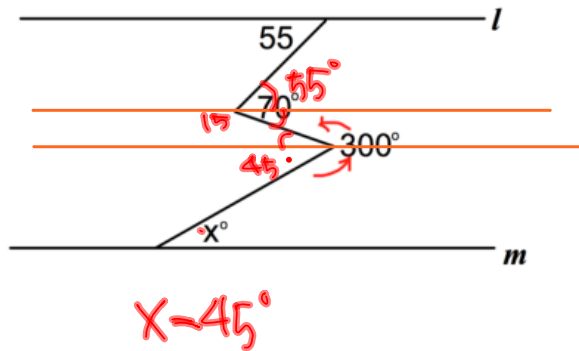
Point reflection about P .

Rotation of 180° about P .

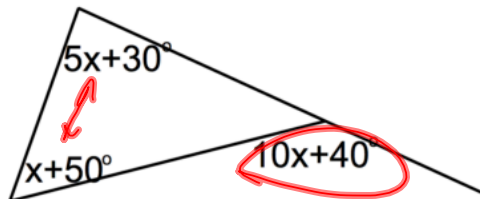
- 4) Find the center of dilation from the given sketch. (5 pts)
*Each box is a unit box.



- 5) Given: $l \parallel m$
Find the measure of x . (10 pts)



- 6) Two interior angles and an exterior angles have the given measures. Find the value of x . (10 pts)



$$10x+40 = (5x+30) + (x+50)$$

$$10x+40 = 6x+80$$

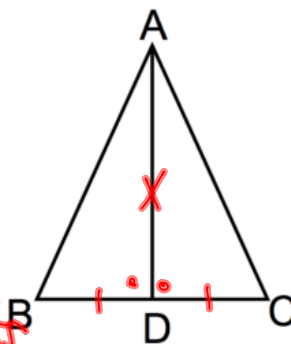
$$4x = 40$$

$$x = 10$$

- 7) Given: D is the midpoint of \overline{BC} .
 $\angle ADB \cong \angle ADC$

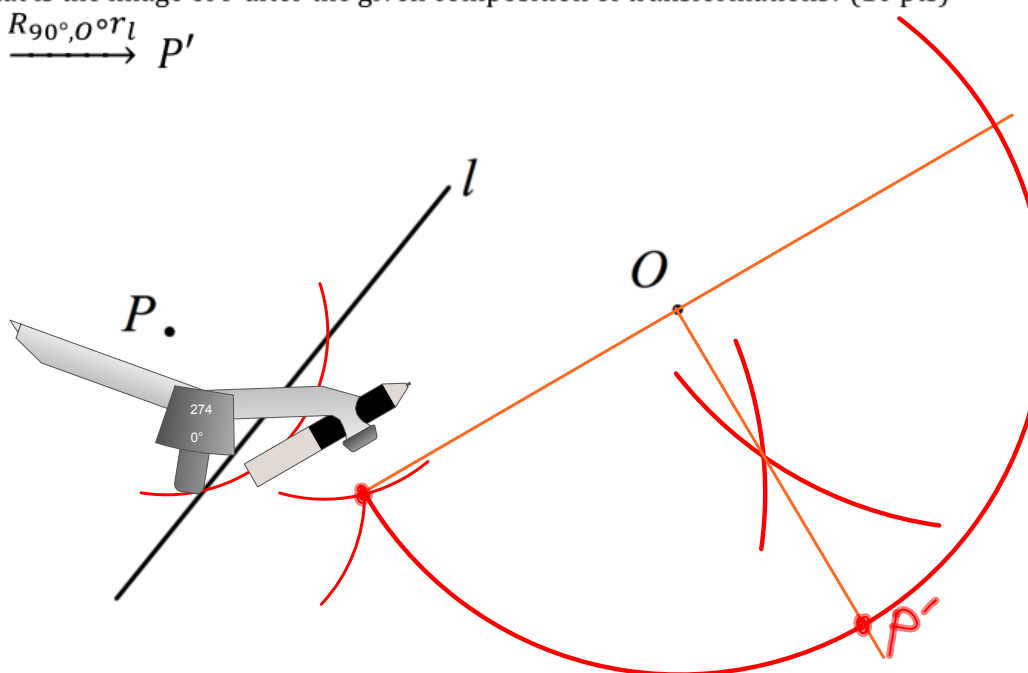
Prove: $AB = AC$
 (10 pts)

Statements	Reasons
①	Given.
② $\overline{BD} \cong \overline{DC}$	A midpt divides a line seg into 2 \cong parts.
③ $\overline{AD} \cong \overline{AD}$	reflexive
④ $\triangle ABD \cong \triangle ACD$	SAS
⑤ $AB = AC$	cPCTP

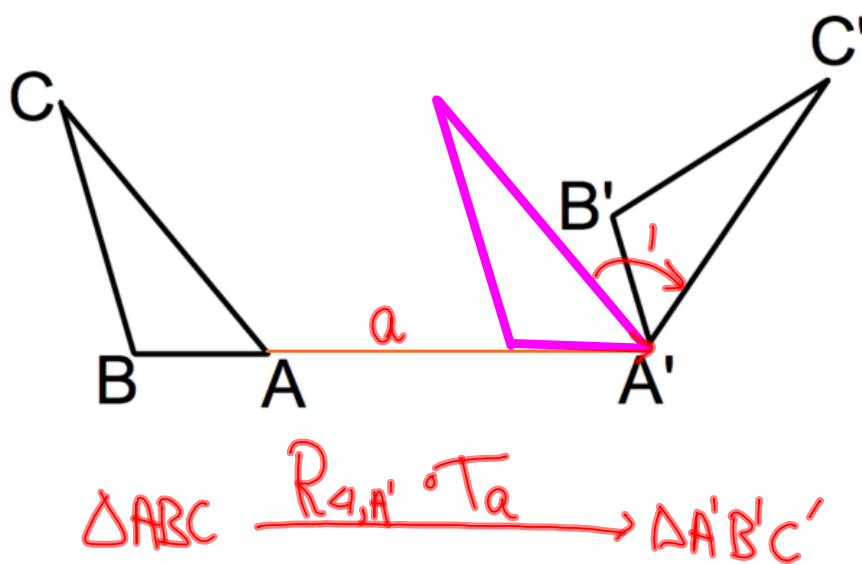


- 8) What is the image of P after the given composition of transformations? (10 pts)

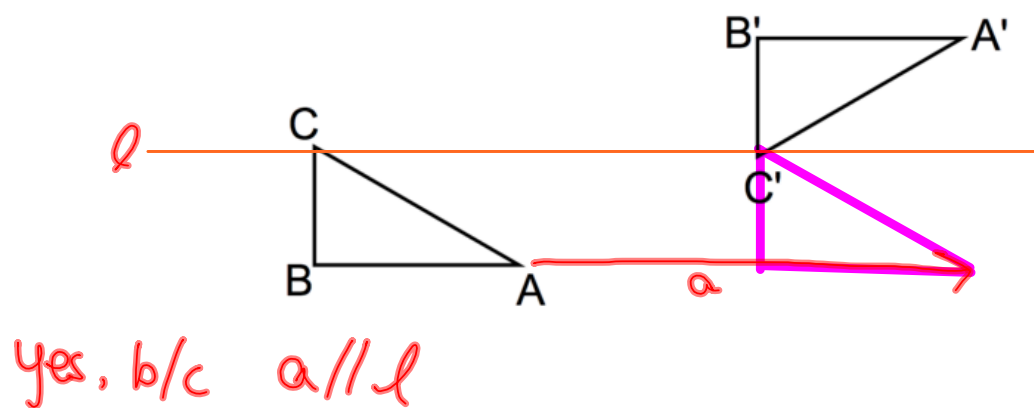
$$P \xrightarrow{R_{90^\circ, O} \circ r_l} P'$$



9) State the composition of transformations that maps $\triangle ABC$ to $\triangle A'B'C'$. (10 pts)



10) Is the given a glide reflection? Explain. (10 pts)



11) What is the center of the circle described by the given equation? (5 pts)

$$x^2 - 3x + y^2 + 6y = 1$$

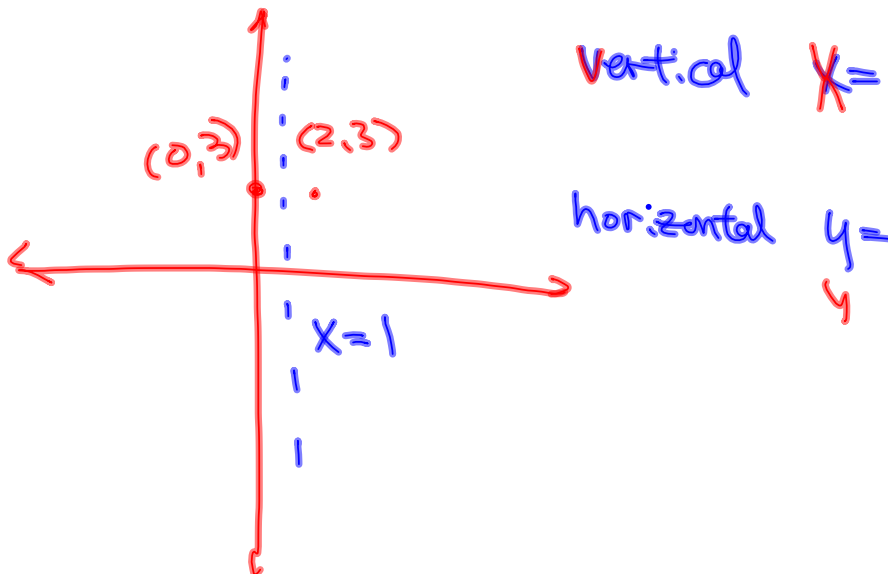


$$x^2 - 3x + y^2 + 6y = 1$$

$$(x - 1.5)^2 + (y + 3)^2 = \square$$

$$C: (1.5, -3)$$

12) Find an equation of perpendicular bisector of \overline{AB} with $A(2, 3)$ and $B(0, 3)$. (5 pts)



5.

Given: $\overline{AB} \cong \overline{AC}$

$\overline{AD} \cong \overline{AE}$

Concl.: \overrightarrow{AF} bisects $\angle BAC$.

