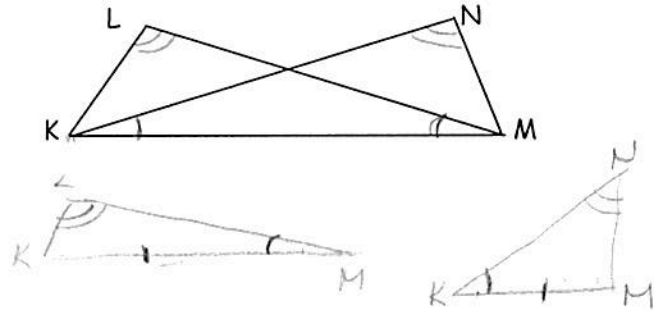


show the rule as warm-up

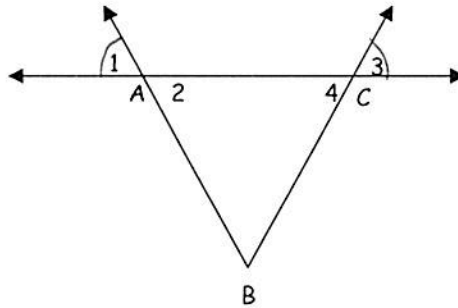
1. GIVEN:  $\angle NKM \cong \angle LMK$ ;  $\angle L \cong \angle N$  AAS  
PROVE:  $\triangle NMK \cong \triangle LKM$

$\triangle NKM \cong \triangle LMK$	Given
$\angle L \cong \angle N$	
$\overline{KM} \cong \overline{KM}$	reflexive
$\triangle NMK \cong \triangle LKM$	AAS



2. GIVEN:  $\angle 1 \cong \angle 3$   
PROVE:  $\overline{AB} \cong \overline{CB}$

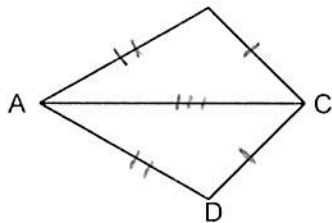
$\angle 1 \cong \angle 3$	Given
$\angle 1 \cong \angle 2$	vertical $\angle$ 's
$\angle 3 \cong \angle 4$	
$\angle 2 \cong \angle 4$	transitive
$\overline{AB} \cong \overline{CB}$	Base $\rightarrow$ converse theorem



Write a congruency statement and give the postulate or theorem that applies.

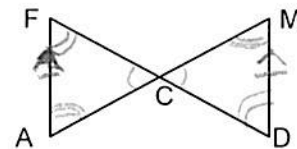
3.  $\triangle ABC \cong \triangle ADC$  by SSS

$\overline{BC} \cong \overline{DC}$   
 $\overline{AB} \cong \overline{AD}$

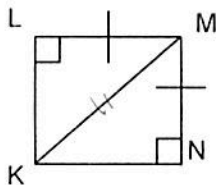


4.  $\triangle AFC \cong \triangle MDC$  by AAS or ASA

$\overline{AF} \cong \overline{MD}$   
 $\overline{AF} \parallel \overline{MD}$

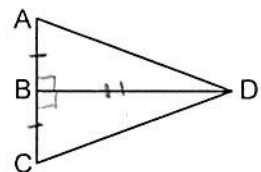


5.  $\triangle NMK \cong \triangle LMK$  by HL

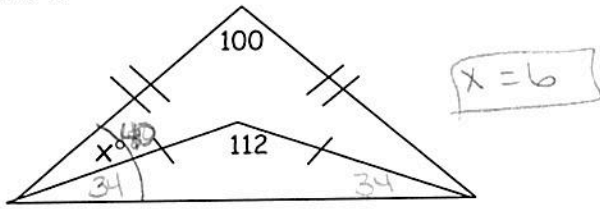


6.  $\triangle ABD \cong \triangle CBD$  by SAS

$\overline{BD}$  is the  $\perp$  bisector of  $\overline{AC}$



7. Find x.

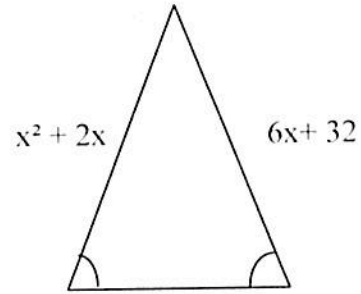


$$\frac{180}{2} - \frac{100}{2} = 34$$

$$180 - 100 = 80$$

8. Solve for x.

x = 8 or -4



$$x^2 + 2x = 6x + 32$$

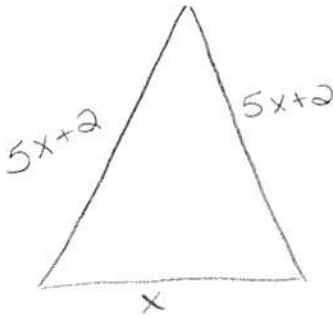
$$x^2 - 4x - 32 = 0$$

$$(x - 8)(x + 4)$$

x = 8  
x = -4

9. An isosceles triangle, one leg is 2 more than 5 times the base. If the perimeter is 81, what is the length of one of the legs? (Hint: let the base = x)

length of one leg 37



$$5x + 2 + 5x + 2 + x = 81$$

$$11x + 4 = 81$$

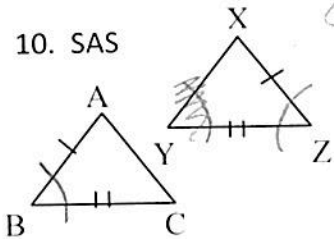
$$11x = 77$$

x = 7

5(7) + 2 = 37

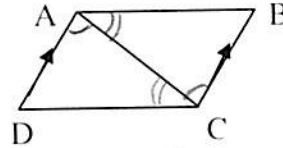
Identify which missing piece of information is necessary to prove triangles are congruent with the indicated postulate.

10. SAS



$\angle B \cong \angle Z$

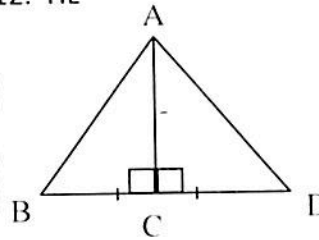
11. AAS



$\overline{AD} \cong \overline{BC}$

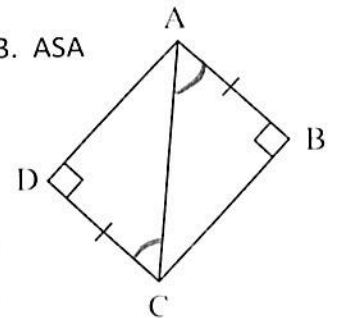
$\overline{DC} \cong \overline{BA}$

12. HL



$\overline{AB} \cong \overline{AD}$

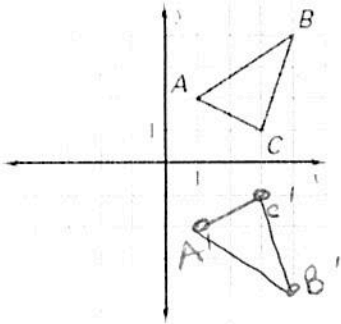
13. ASA



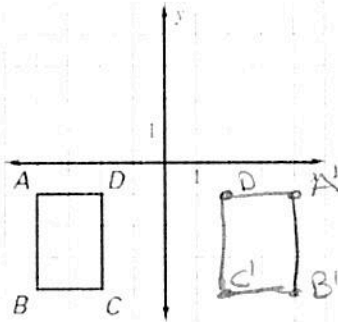
$\angle DCA \cong \angle BAC$

reflection of the polygon in the given line.

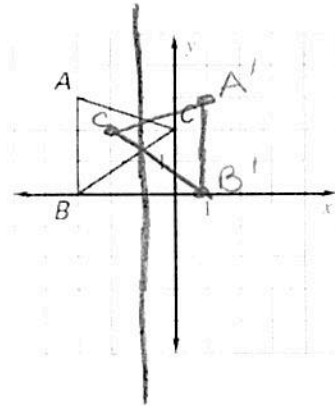
x-axis



15. y-axis

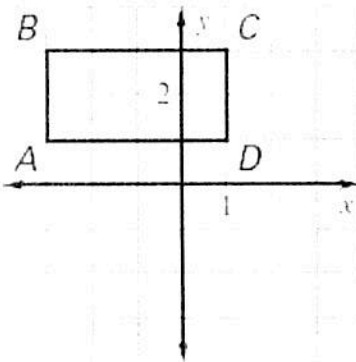


16.  $x = -1$



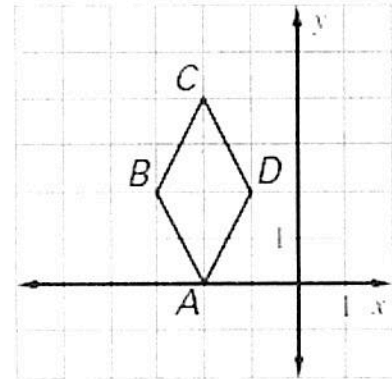
Rotate the figure the given number of degrees about the origin. List the coordinates of the vertices of the image.

17.  $90^\circ$



A (-1, -3)  
B (-3, -3)  
C (-3, 1)  
D (-1, 1)

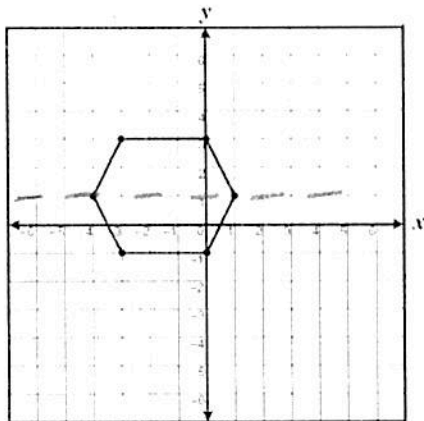
18.  $180^\circ$



A'(2, 0)  
B'(3, -2)  
C'(2, -4)  
D'(1, -2)

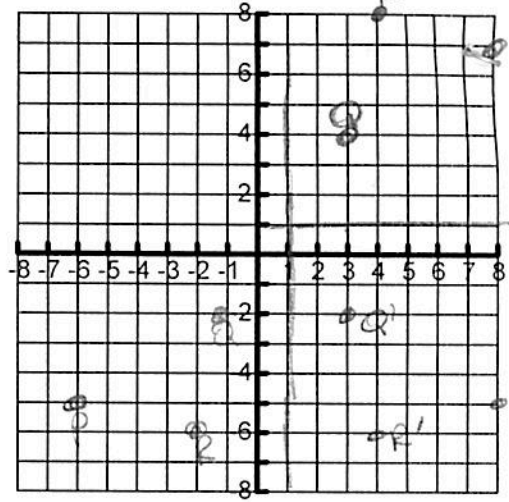
D 19. A hexagon is graphed on the coordinate grid. Which two coordinate points lie on the same line of symmetry on this hexagon?

- A. (-3, -1) and (0, 3)
- B. (-1, 3) and (-1, -1)
- C. (0, 3) and (0, -1)
- D. (-4, 1) and (1, 1)



20. Graph triangle PQR with  $P(-6, -5)$ ,  $Q(-1, -2)$ ,  $R(-2, -6)$ .  
 Reflect this triangle first over  $x = 1$ , then over  $y = 1$ .  
 Name the type of transformation that will map the pre-image to the final image. List the coordinates.

$P'$  8, -5    $Q'$  3, -2    $R'$  4, -6  
 $P''$  8, 7    $Q''$  3, 4    $R''$  4, 8



21. Draw a figure with reflectional and rotational symmetry:



22. Draw a figure with reflectional and NO rotational symmetry:



For #23 and #24, write the inverse and contrapositive of the statements.

23. If points are coplanar, then they lie in the same plane.

~~I: If points are not coplanar then they do not lie on the same plane~~

~~C: If pts do not lie on the same plane then they are not coplanar~~

24. If a dog is a Chihuahua, then the dog is small.

~~I: If the dog is not small, then it is not a Chihuahua~~

~~C: If a dog is not a Chihuahua, then the dog is not small~~

10/10/2020