

8. Complete the following proof.

Given: $\angle A \cong \angle B$, $\angle B \cong \angle C$
 Prove: $\angle A \cong \angle C$

Statements

1. $\angle A \cong \angle B$, $\angle B \cong \angle C$

2. $\angle A = \angle B$, $\angle B = \angle C$

3. $\angle A = \angle C$

4. $\angle A \cong \angle C$

Reasons

1.

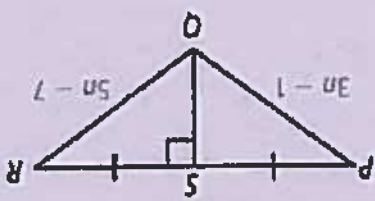
2.

3.

4.

Define "transitive property": $\angle A = \angle B$ and $\angle B = \angle C$ therefore $\angle A = \angle C$

9. OS is the perpendicular bisector of PR. Find the length of QR.



$$3n - 1 = 5n - 7$$

$$6 = 2n$$

$$n = 3$$

$$QR = 5(3) - 7$$

$$QR = 15 - 7$$

$$QR = 8$$

10. Given the figure at the right, answer the questions that follow.

Given: line a \parallel line b and line c \parallel line d.

Identify the relationship between the following angles:

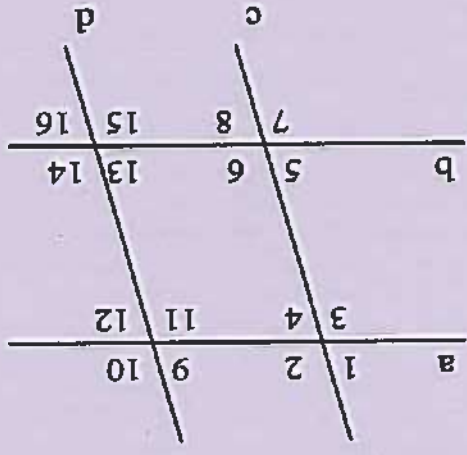
$\angle 1 \cong \angle 8$ alt. ext. angles

$\angle 1 \cong \angle 5$ corresponding angles

$\angle 2 \cong \angle 11$ alt. int. angles

$\angle 4 \cong \angle 8$ corresponding angles

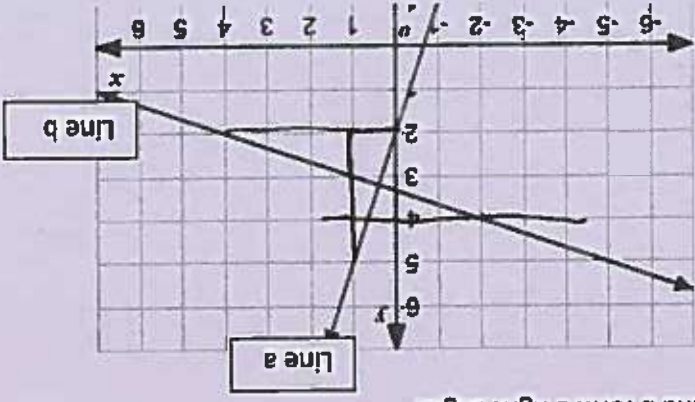
$\angle 10 \cong \angle 11$ vertical angles



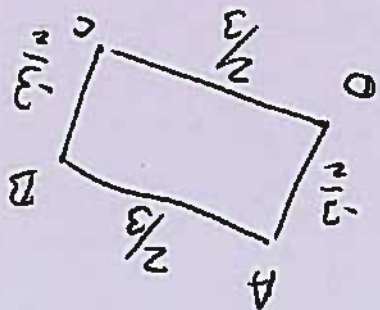
11. Find the slope of each line. Then, explain why lines a and b form a right angle.

Slopes: $\frac{Run}{Rise}$
 Line a: $\frac{3}{-1}$
 Line b: $-\frac{1}{3}$

Explanation: The slopes are opp. reciprocals.



12. For rectangle ABCD, the slope of AB is $\frac{3}{2}$. Fill in the slopes for all of its sides.



13. The coordinates of quadrilateral EFGH are E(2,6), F(3,7), G(6,4), and H(5,3). What information would you need to prove that this quadrilateral is a...
 - parallelogram?
 - rhombus?
 - square?
 - rectangle?

(b) Find the length of each side.

$$EF = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$$

$$\sqrt{(3-2)^2 + (7-6)^2}$$

$$\sqrt{1^2 + 1^2} = \sqrt{2} = 1.414$$

(d) What is the most precise name for this quadrilateral?

(c) Find the slope of each side.

$$M_{EF} = \frac{y_2 - y_1}{x_2 - x_1} = \frac{7-6}{3-2} = \frac{1}{1} = 1$$

14. Given the diagram at the right, find the slope of each side.

$$RS = \frac{5}{2} = 2\frac{1}{2}$$

$$RU = \frac{1}{8}$$

$$ST = \frac{1}{9}$$

$$UT = \frac{1}{8}$$

Which sides are parallel, if any? None

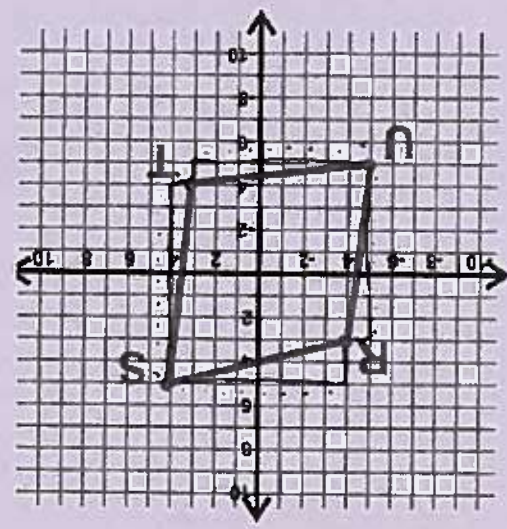
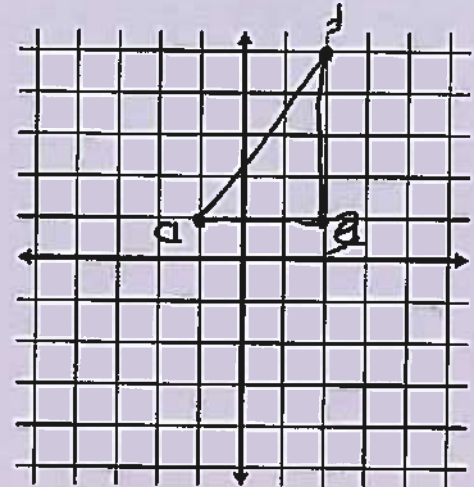
Explain your reasoning

Note on the slope & congruent

15. Is a triangle with vertices D(1,-1), E(-2,-1), and F(-2,-5) a right triangle? Explain your reasoning.

Yes or No Yes

Explanation LE IS A RIGHT L.



16. Given the 2 equations below, find the slope of each on e.

$$-4x + y = -3$$

$$-2x - 8y = 1$$

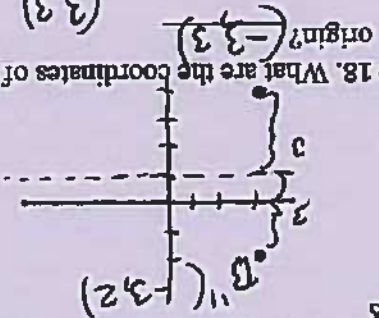
$$-\frac{4}{1} = -\frac{1}{-4} = \frac{1}{4}$$

$$-\frac{2}{-8} = -\frac{-2}{-8} = \frac{1}{4}$$

Are the lines parallel, coinciding, perpendicular, or none of the above? Perpendicular

Explain your answer. opposite reciprocals is the slope

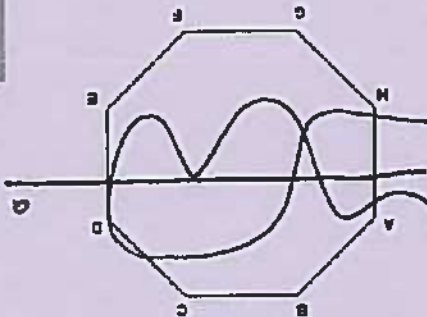
17. If B(-3, -4) is reflected along the line $y = -1$, what are the coordinates of B'? (-3, 2)



18. What are the coordinates of G after it is rotated 90° counterclockwise about the origin? (-3, 3)

$$(3, 3) \xrightarrow{90^\circ} (-3, 3)$$

19. Which transformation will map point C onto point E? Reflection across line y = 1 and translation 1 unit up



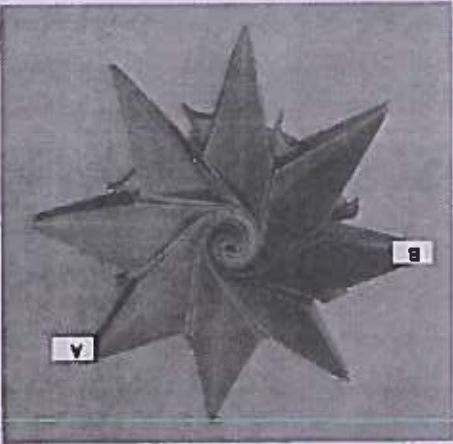
$$360 \div 8 = 45$$

$$45 \times 3 = 135$$

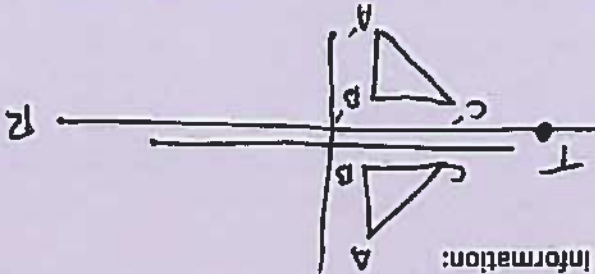
20. The shape at the right has rotational symmetry. How many degrees would the shape rotate so that point A maps onto Point B? 135

$$45 \times 3$$

$$135$$



21. $\square ABC$ is reflected over \overline{TR} to produce $\square A'B'C'$.



First, draw a picture to illustrate the information:

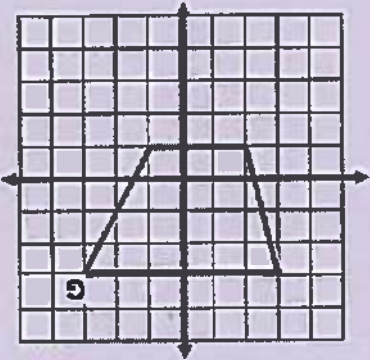
Then, choose the statement that will not necessarily be true, based on the picture:

(a) $\overline{AA'} \perp \overline{TR}$

(b) $\overline{AA'} \parallel \overline{BB'}$

(c) $\overline{AB} \cong \overline{A'B'}$

(d) $\overline{AA'} \cong \overline{BB'}$



22. A reflection over parallel lines is the same as
 Draw a picture to illustrate your answer.

* 23. Given quadrilateral ABCD, graph the quadrilateral. Then, apply the transformation shown. Finally, describe the transformation.

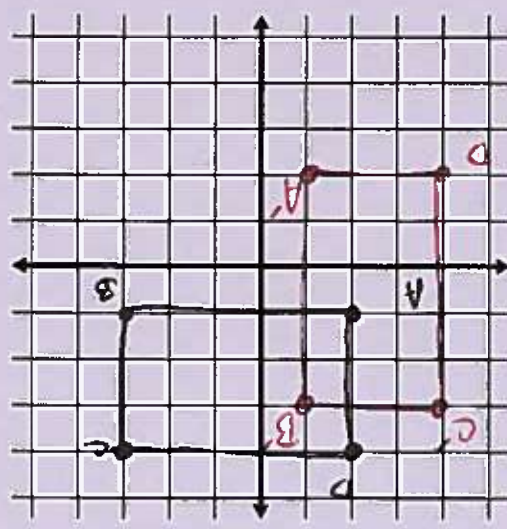
A(-2,1), B(3,1), C(3,4), D(-2,4)
 Transformation: $(x, y) \rightarrow (-y, x)$

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

This is a rotation of 90°.

Write the coordinate rule for the following rotations:

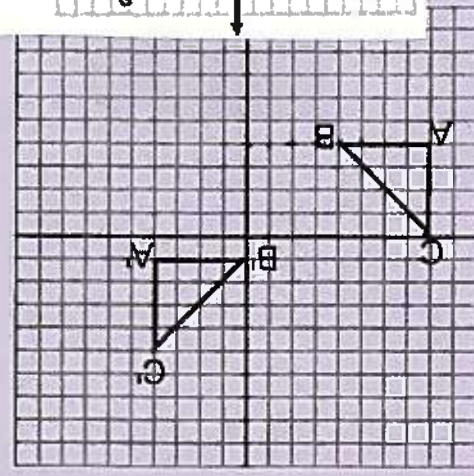
- 90°: $(x, y) \rightarrow (-y, x)$
- 180°: $(x, y) \rightarrow (-x, -y)$
- 270°: $(x, y) \rightarrow (y, -x)$



* 24. Describe the sequence of transformations that maps $\square ABC$ onto $\square A'B'C'$.

$$(x, y) \rightarrow (x+8, y+5)$$

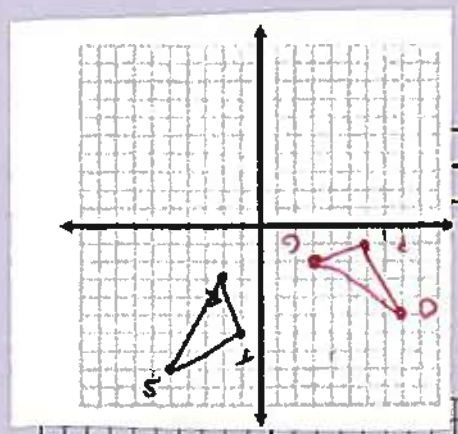
Reflection across the y axis



* 25. Describe the series of transformations that maps RST onto GOP.

R(2,3), S(5,8), T(1,6)
 G(-3,2), O(-8,5), P(-6,1)

90° rotation

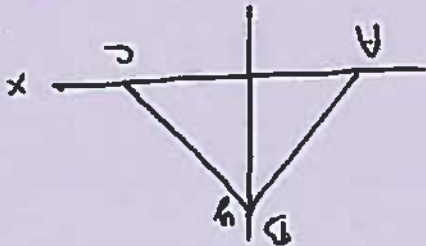


* 26. Describe the transformation $(x, y) \rightarrow (x, -y)$

Reflection across the x axis
 x remains the same.
 y change sign.

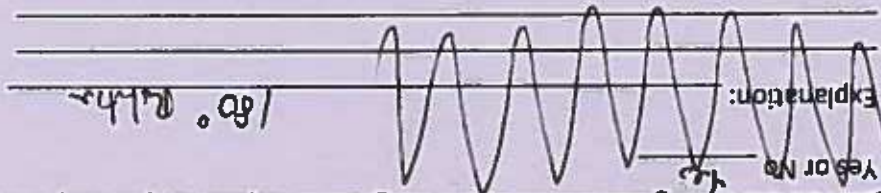
27. $\triangle ABC$ is graphed on a coordinate plane and reflected over the y-axis. Point A' maps to point C, point C' maps to A and Point B' maps to B.

First, draw a picture to illustrate the description.



Then, fill in the blanks below:
The triangles are _____ (right, isosceles, equilateral, or scalene) and _____ (congruent or not congruent).

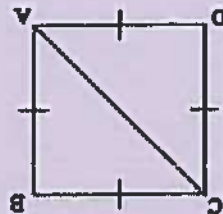
26. Are the two figures shown below congruent? Explain why or why not.



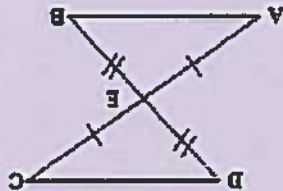
Explanation:

180° rotation

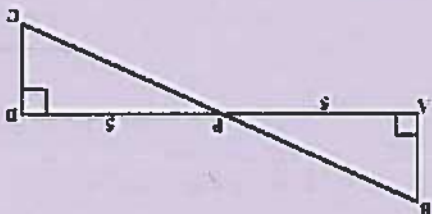
29. For each of the following pairs of triangles, identify why the two triangles are congruent.



Reasons: AC



Reasons: 180°
around pt E

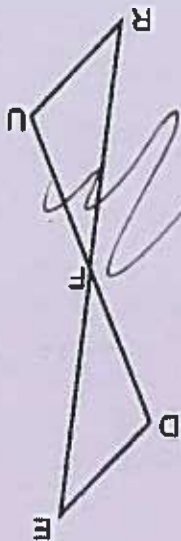


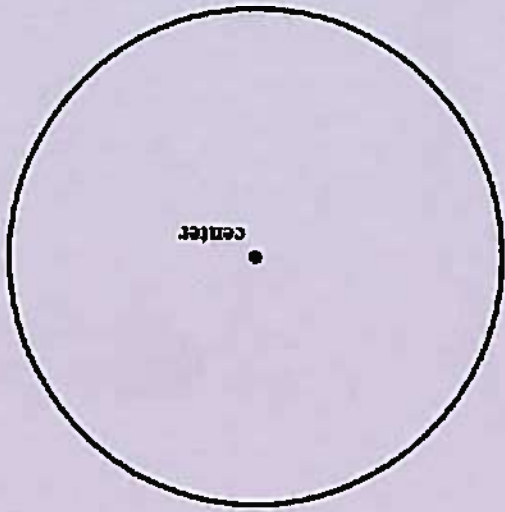
Reasons: 180° around P

30. Complete the proof shown below.

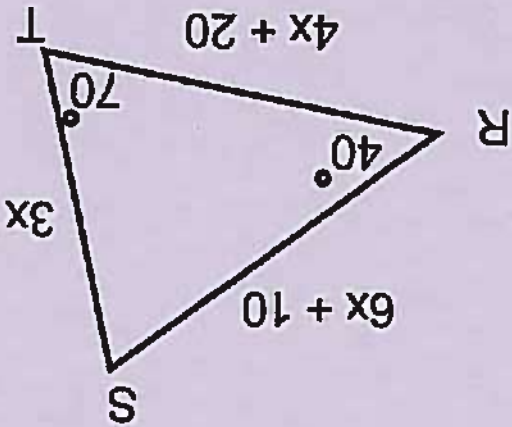
Given: \overline{DEUR} and F is the midpoint of \overline{DU}
Prove: $\square DEF \cong \square URF$

Statements	Reasons
1. \overline{DEUR}	
2. F is the midpoint of \overline{DU}	
3. $\angle EDF \cong \angle URF$	
4. $\angle DFR \cong \angle UFR$	
5. $\overline{DF} \cong \overline{UF}$	
6. $\square DEF \cong \square URF$	





34. Using a compass, construct an equilateral triangle inscribed in the given circle.



Find x to find the perimeter (add all sides together).

33. In the diagram below, what is the perimeter of triangle RST? First, find the measure of the third angle. What type of triangle is it? Set two sides equal to solve for x .

$$3x + 28 + 54 + 52 + 2x - 10 = 180$$

$$5x + 70 = 180$$

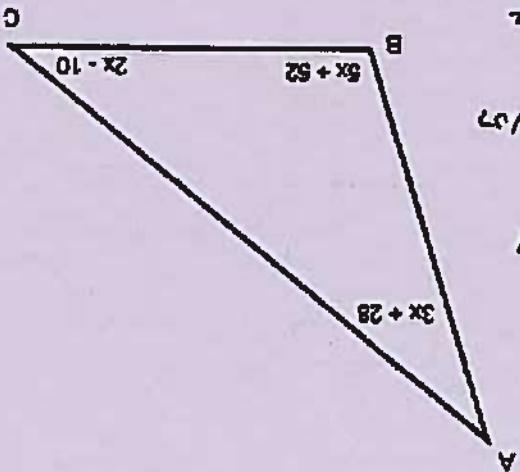
$$5x = 110$$

$$x = 22$$

angle measures: $61, 107, 12$

$$x = 11$$

32. In the diagram at the right, find the value of x and the measure of each angle.



$$3(11) + 21$$

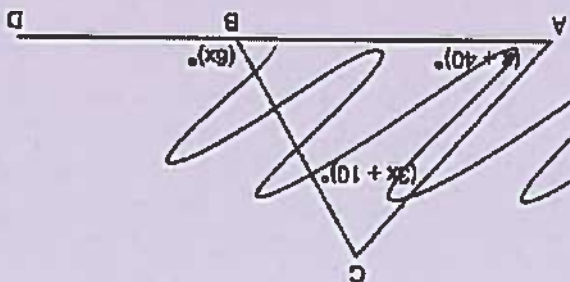
$$33 + 28 = 61$$

$$5(11) + 52$$

$$55 + 52 = 107$$

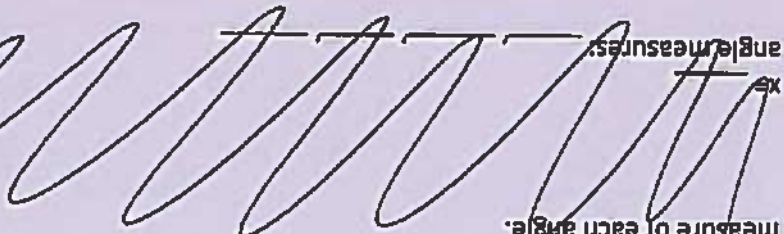
$$2(11) - 10$$

$$22 - 10 = 12$$

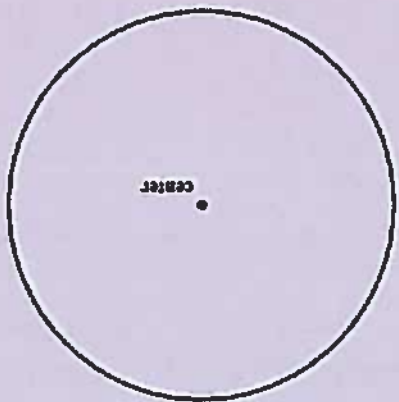


31. In the diagram at the right, find the value of x and the measure of each angle.

angle measures:

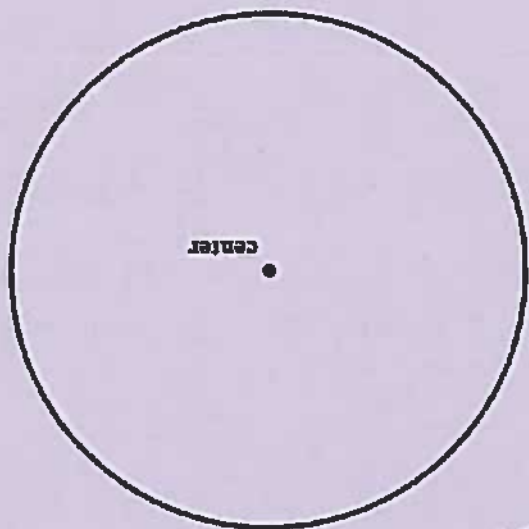


35. Using a compass, construct a hexagon inscribed in the given circle.

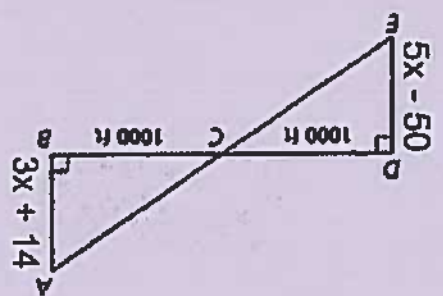


Measure the length of the radius with a ruler. Then measure each of the sides of the hexagon. What do you notice?

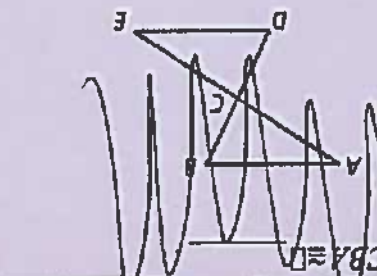
36. Using a compass, construct a square inscribed in the circle below.



37. Use the diagram below to calculate the length of DP .



38. For the figure at the right, how are the two triangles congruent?

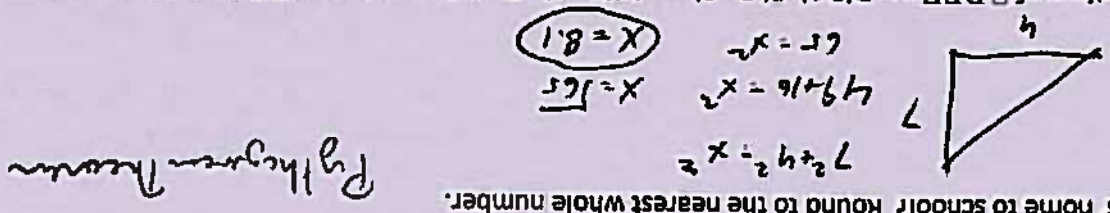


Given: AD and BE bisect each other.

Complete the following congruence statement: $\triangle ABC \cong \triangle DEF$

39) Koda places a ladder on level ground against a wall. When the base of the ladder is 6 feet from the wall, the ladder reaches to a height of 8 feet on the wall. Koda then moves the base of the ladder 2 feet closer to the wall. To the nearest foot, how high up the wall does the ladder reach?

40) Jesus walked home from school by traveling 7 blocks south and then 4 blocks west. What is the shortest distance from Jesus' home to school? Round to the nearest whole number.



$$7^2 + 4^2 = x^2$$

$$49 + 16 = x^2$$

$$65 = x^2$$

$$x = \sqrt{65}$$

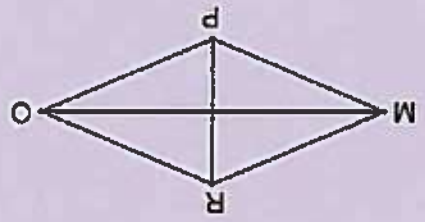
$$x = 8.1$$

* 41. The vertices of $\square DEFG$ are $D(0,1)$, $E(-2,-3)$, and $F(3,-4)$. Find the vertices of $\square D''E''F''$ after a composition of the transformations in the order they are listed.

- Translation 1: $(x,y) \rightarrow (x+2, y-3)$
- Translation 2: $(x,y) \rightarrow (x-3, y+4)$
- $D''(-1,2)$ $E''(-3,-2)$ $F''(2,-2)$
- $D'(2,-2)$ $E'(0,-7)$ $F'(5,-7)$
- $D(0,1)$ $E(-2,-3)$ $F(3,-4)$
- $D'(-1,-2)$ $E'(-3,-2)$ $F'(-3,-3)$

42. The endpoints of segment DE are $D(2,-2)$ and $E(1,-3)$ are reflected across the x-axis. When all the segments are connected, what type of quadrilaterals formed?

43. Given that $MNOP$ is a rhombus, if $\angle MRO = 150^\circ$, what is $\angle PNM$?

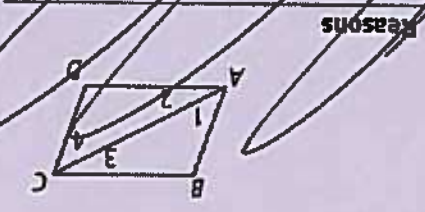


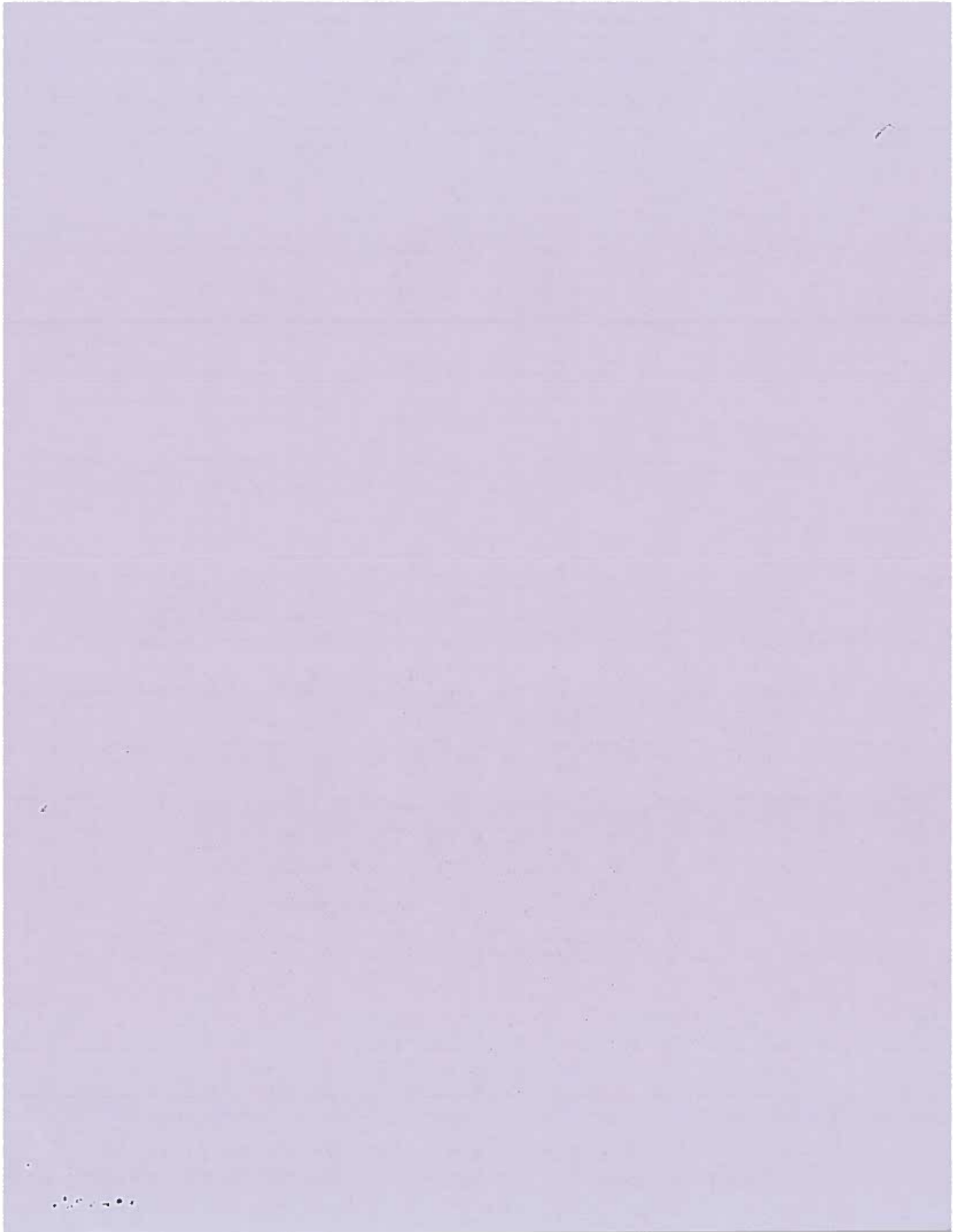
44. Complete the following proof.

Given: $\square ABCD$

Prove: $\underline{AB} = \underline{CD}$ and $\underline{BC} = \underline{DA}$

- | Statements | Reasons |
|--|---------|
| 1) $ABCD$ is a parallelogram. | 1) |
| 2) $\underline{AB} \parallel \underline{CD}$ and $\underline{BC} \parallel \underline{DA}$ | 2) |
| 3) $\angle 1 \cong \angle 4$ and $\angle 3 \cong \angle 2$ | 3) |
| 4) $\underline{AC} \cong \underline{AC}$ | 4) |
| 5) $\triangle ABC \cong \triangle CDA$ | 5) |
| 6) $\underline{AB} \cong \underline{CD}$ and $\underline{BC} \cong \underline{DA}$ | 6) |





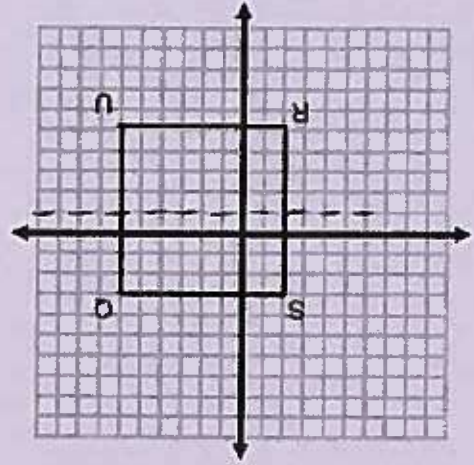
* 45 Jaden and his friends are studying for a geometry test and one of the main topics covered is parallelograms. They each make a statement about parallel lines.

- A. Jaden and Francisco
 - B. Francisco and Austin
 - C. Kathleen, Austin, and Jaden
 - D. Kathleen and Francisco
- Analyze each statement and determine who is correct.
- Austin writes, "Diagonals of a parallelogram are congruent."
- Francisco writes, "Consecutive angles of a parallelogram are congruent."
- Jaden writes, "Consecutive sides of a parallelogram are perpendicular."
- Kathleen writes, "Opposite sides of a parallelogram are parallel."

* 46 Which of the following statements are true regarding parallel lines? Circle all that are true.

- A. Parallel lines have the same slope.
- B. Two lines parallel to a third line will be parallel to each other.
- C. Parallel lines do not intersect.
- D. Two lines perpendicular to a third line will be parallel to each other.

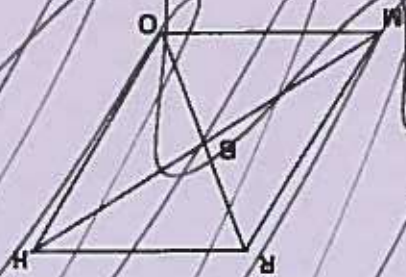
* 47 What transformation will map the square SQR onto itself?



- A. Translation $(x,y) \rightarrow (x+3, y-5)$
- B. Rotation of 90° clockwise

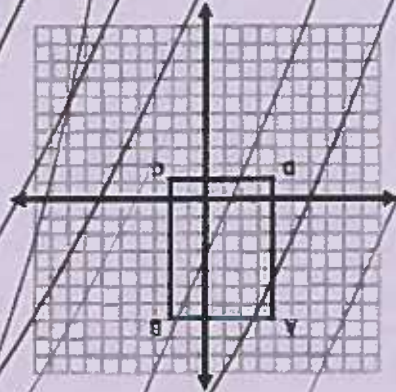
- C. Reflection across the y axis
- D. Reflection across the line $y = -1$

Q8) Given Rhombus $RHOM$ with diagonals RO and HM intersecting at point B , determine which method or methods will prove the $\triangle RBM$ congruent to $\triangle OBH$. Circle all that are true.



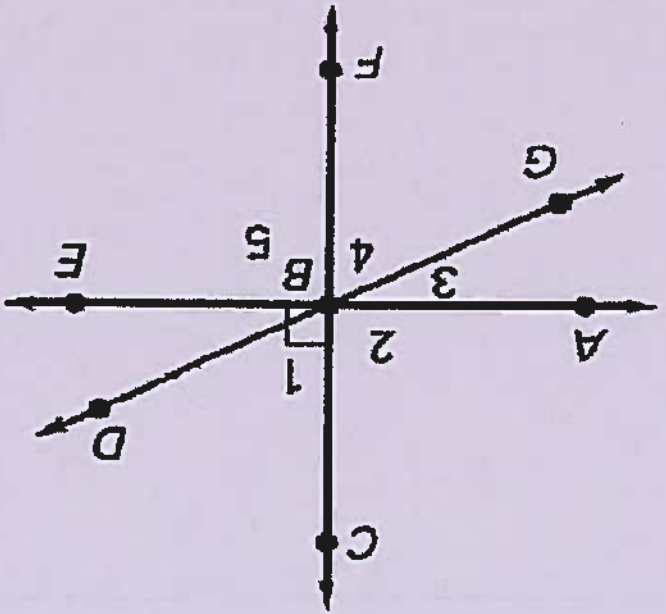
- A. SSS
- B. SAS
- C. SSS
- D. HL

Q9) Which reasons justify that figure $ABCD$ is a parallelogram? a rectangle? a square? Circle all that are true.



- A. AD is perpendicular to AB , AB is perpendicular to BC .
- B. AB and DC have no slope.
- C. $AB = BC = CD = DA$.
- D. $AC = 10$ and $DB = 10$.

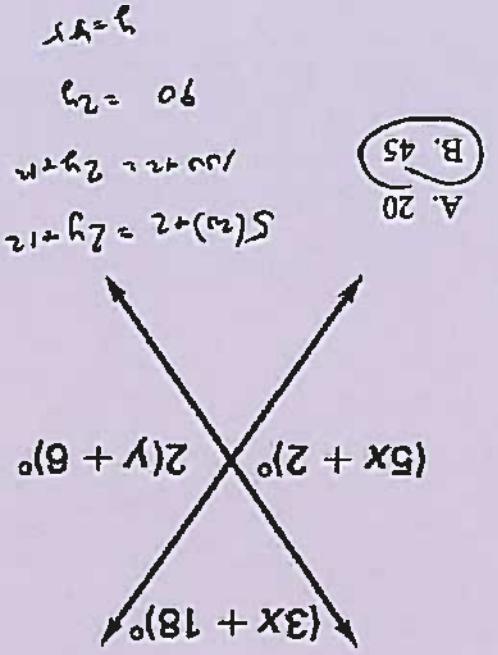
1. Which of the following pairs of angles are adjacent?



- A. $\angle CBD$ and $\angle GBF$
- B. $\angle ABC$ and $\angle CBD$

- C. $\angle ABG$ and $\angle DBC$
- D. $\angle ABC$ and $\angle DBE$

2. Solve for y in the diagram.



- A. 20
- B. 45

$$5(20) + 2 = 2y + 12$$

$$100 + 2 = 2y + 12$$

$$90 = 2y$$

$$y = 45$$

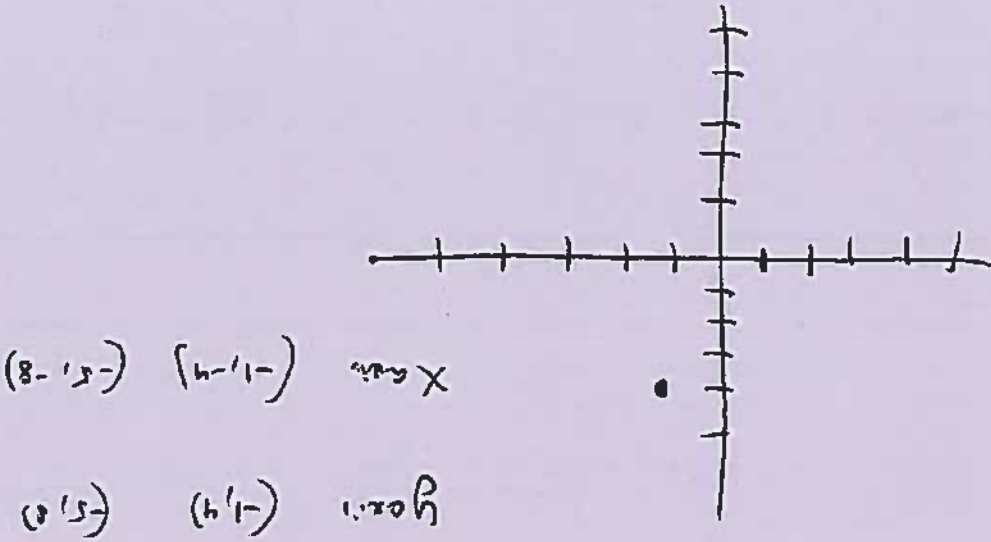
$$3x + 18 + 5x + 2 = 180$$

$$8x + 20 = 180$$

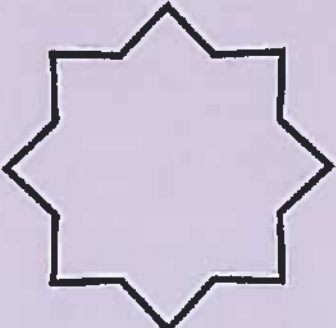
$$8x = 160$$

$$x = 20$$

- C. 51
- D. 78

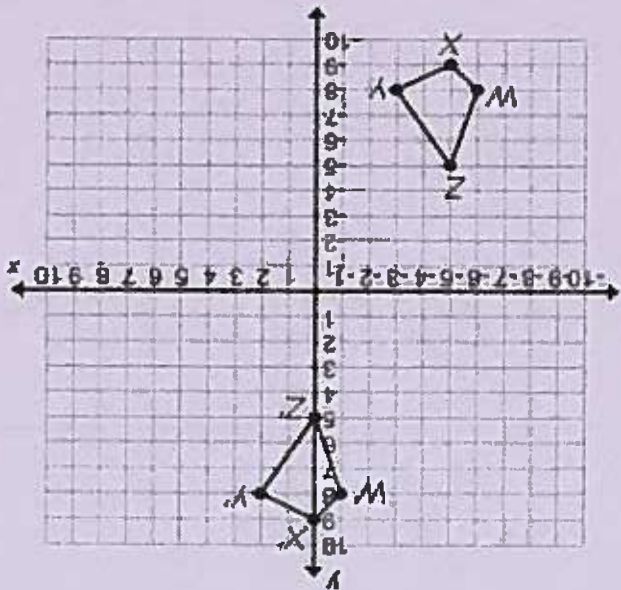


5. A line segment has endpoints with coordinates $(1, 4)$ and $(5, 8)$. If the segment is reflected over the y-axis and then reflected over the x-axis, what are the coordinates of the endpoints of the resulting line segment?
- A. $(-1, -4)$ and $(-5, -8)$
 - B. $(-1, 4)$ and $(-5, 8)$
 - C. $(1, -4)$ and $(5, -8)$
 - D. $(1, 4)$ and $(5, 8)$

4. What is the smallest angle of rotation (about the center) that will map the polygon onto itself?
- 
- A. 45°
 - B. 72°
 - C. 90°
 - D. 180°

3. Which of the following transformations does not create congruent figures?
- A. dilation
 - B. reflection
 - C. translation
 - D. rotation

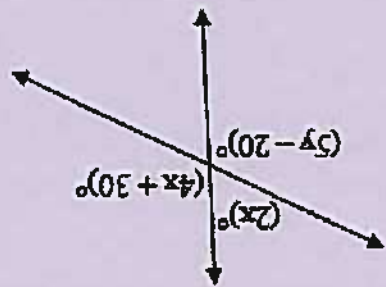
6. Which transformations could be used to move quadrilateral WXYZ to W'X'Y'Z'?



- A. a translation and then a reflection over the x-axis
 B. a translation and then a reflection over the y-axis

- C. a translation to the right and then a translation up
 D. a reflection over the x-axis and then a reflection over the y-axis

7. What is the value of y in the diagram?



- A. 20
 B. 25

- C. 30
 D. 35

$$6x + 30 = 180$$

$$6x = 150$$

$$x = 25$$

$$100 + 30 = 5y - 20$$

$$130 = 5y - 20$$

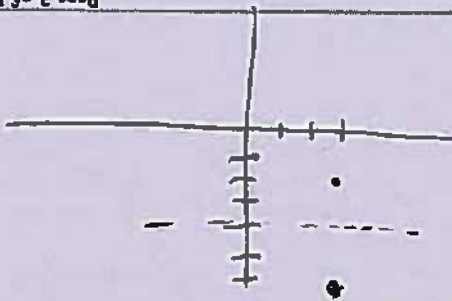
$$150 = 5y$$

$$y = 30$$

8. What are the coordinates of the image of $(-3, 2)$ when the point is reflected across the line $y = 4$.

- A. $(-3, 4)$
 B. $(-1, 6)$

- C. $(6, -3)$
 D. $(-3, 6)$



9. A quadrilateral with vertices $(-3, 3)$, $(-3, 0)$, $(3, 0)$, and $(3, 3)$ is reflected across the x-axis. Which is not a vertex of the image?
 $(-3, -3)$

- A. $(3, -3)$
- B. $(-3, 0)$

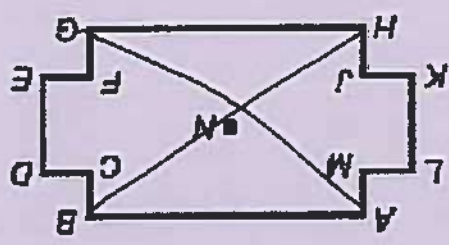
- C. $(3, 0)$
- D. $(-3, 3)$

10. A triangle is placed on a coordinate grid. The image is transformed according to the rule $(x, y) \rightarrow (x, -y)$. What is the line of symmetry?

- A. $x = 0$
- B. $y = 0$

- C. $x = -y$
- D. $y = x$

11. This figure represents the floor plan of a museum. Rectangles ABGH and LDEK have diagonals that intersect at point N. The designer wants the stairwells to be rotationally symmetric about N. Which pair of points would be appropriate places for the stairwells?



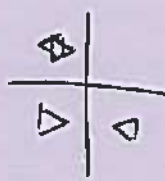
- A. A and H
- B. D and L

- C. E and A
- D. C and J

12. Which transformation is the same as reflections over intersecting lines?

- A. Translation
- B. Rotation

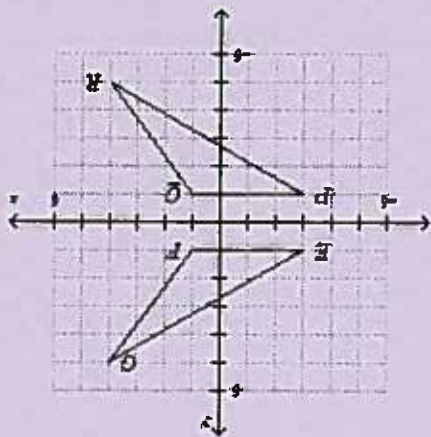
- C. Reflection
- D. None of the above



13. Which mapping represents a rotation of 270° counterclockwise about the origin?

- A. $(x, y) \rightarrow (-x, y)$
- B. $(x, y) \rightarrow (y, -x)$

- C. $(x, y) \rightarrow (-y, x)$
- D. $(x, y) \rightarrow (x, -y)$



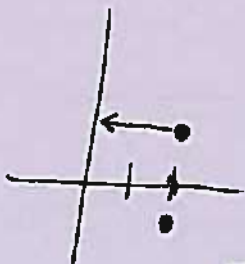
- A. The triangles are congruent because ΔEFG can be mapped to ΔPQR by a reflection: $(x, y) \rightarrow (-x, y)$
- B. The triangles are congruent because ΔEFG can be mapped to ΔPQR by a rotation: $(x, y) \rightarrow (-y, -x)$

- C. The triangles are congruent because ΔEFG can be mapped to ΔPQR by a reflection: $(x, y) \rightarrow (x, -y)$
- D. The triangles are congruent because ΔEFG can be mapped to ΔPQR by a rotation: $(x, y) \rightarrow (-y, x)$

15. Explain why triangles ΔEFG and ΔPQR are congruent.

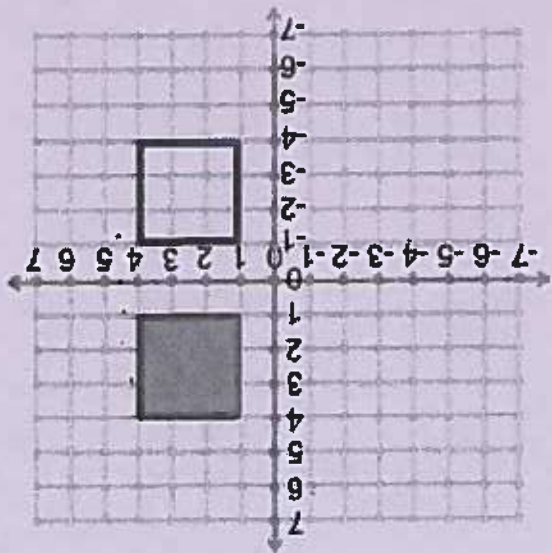
- A. $(4, a)$
 B. $(-4, a)$

- C. $(0, -a)$
 D. $(0, a)$



14. The coordinates of point A are $(-2, a)$. Point B is created by reflecting point A across the x-axis and then translating the image point 2 units to the right. What are the coordinates of point B?

16. Which of the following transformations could be used to map the shaded square onto the non-shaded square?



I. Reflection using the rule $(x, y) \rightarrow (x, -y)$

II. Rotation using the rule $(x, y) \rightarrow (-y, x)$

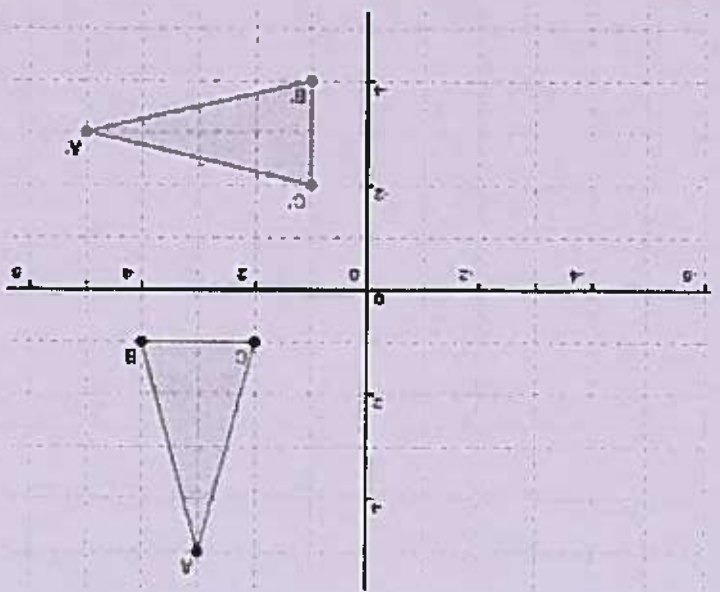
III. Translation using the rule $(x, y) \rightarrow (x, y - 5)$

A. I and II, only

B. I and III, only

- C. I, II, and III.
 D. None of them

17. Are triangles $\triangle ABC$ and $\triangle A'B'C'$ congruent?



A

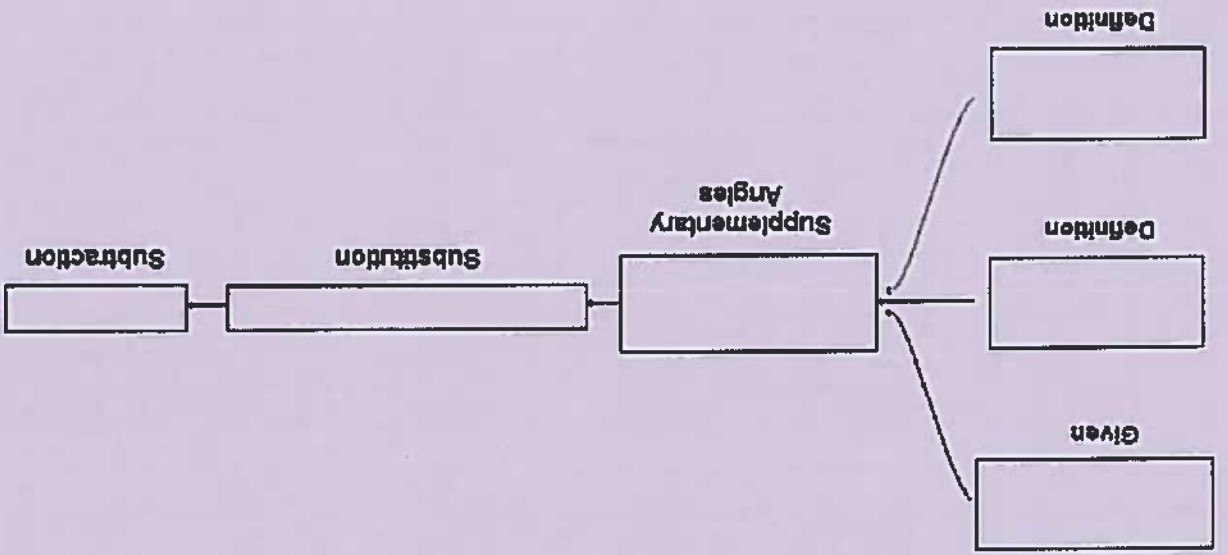
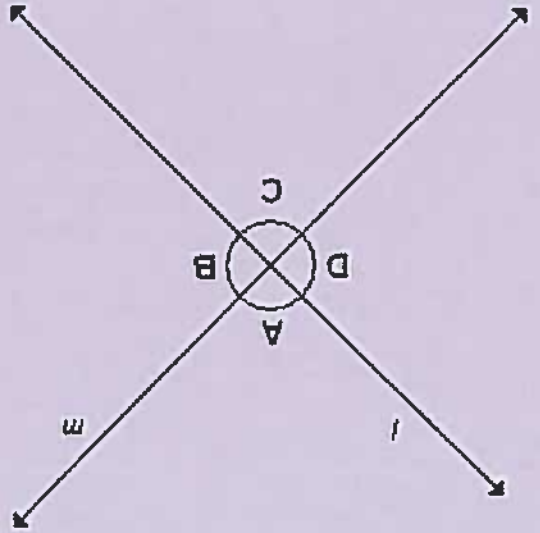
Yes, because $\triangle ABC$ is mapped on $\triangle A'B'C'$ by a rotation of 90° clockwise about the origin.

B. Yes, because $\triangle ABC$ is mapped on $\triangle A'B'C'$ by a rotation of 90° counterclockwise about the origin.

D. No, the triangles are not congruent.

C. Yes, because $\triangle ABC$ is mapped on $\triangle A'B'C'$ by a reflection in the line $y = x$.

18. Identify which statement will not be used in the following proof.
 Given: Intersecting lines l and m with angles $\angle A$, $\angle B$, $\angle C$ and $\angle D$.



A. $m\angle A + m\angle B = 180$

B. $m\angle A + m\angle C = 180$

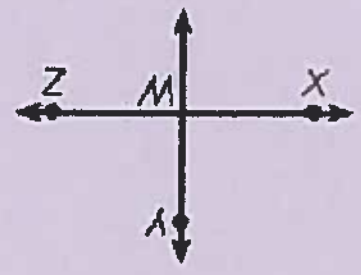
C. $m\angle C + m\angle B = 180$

D. $m\angle A + m\angle B = m\angle C + m\angle B$

- A. $m\angle XWY + m\angle YWZ = 90^\circ$; Definition of right angles
 B. $m\angle XWY + m\angle YWZ = 180^\circ$; Definition of right angles
 C. $m\angle XWY + m\angle YWZ = 180^\circ$; Definition of straight angles
 D. $m\angle XWY + m\angle YWZ = 90^\circ$; Definition of straight angles

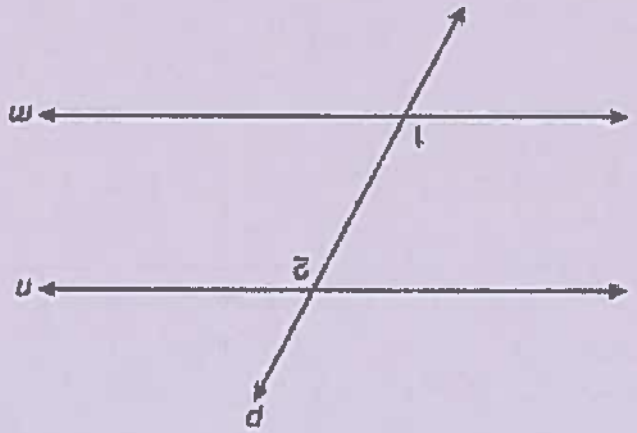
Reasons	Statements
1. Given	$\angle XWY \cong \angle YWZ$
2. _____	$m\angle XWY + m\angle XWY = 180^\circ$
3. Substitution	$2m\angle XWY = 180^\circ$
4. Substitution	$m\angle XWY = 90^\circ$
5. Division Property of Equality	$\angle XWY$ is a right angle
6. Definition of a right angle	$\overleftrightarrow{WX} \perp \overleftrightarrow{WY}$
7. Definition of perpendicular lines	

Given: $\angle XWY \cong \angle YWZ$
 Prove: $\overleftrightarrow{WX} \perp \overleftrightarrow{WY}$



20. Give the missing statement and reason in the following proof.

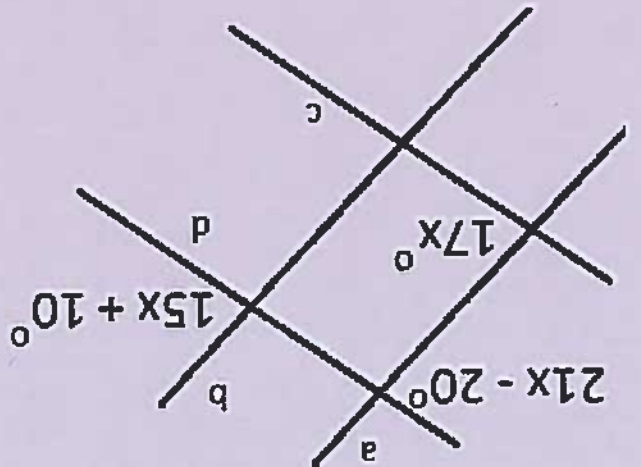
- A. 12.5
 B. 15
 C. 87.5
 D. 105



$7x = 5x + 30$
 $2x = 30$
 $x = 15$

19. If $m\angle 1 = (7x)^\circ$ and $m\angle 2 = (5x + 30)^\circ$, lines m and n are parallel when x equals...

21. If $x = 5$, which two lines are parallel, if any?



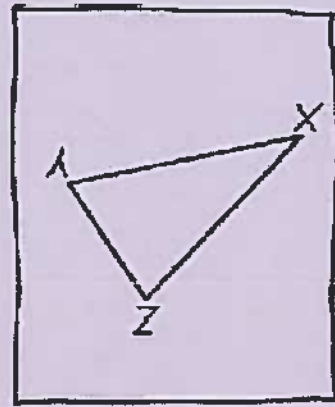
A. Lines a & b are parallel.

B. Lines c & d are parallel.

C. Line a \parallel line b and line c \parallel line d.

D. There is not enough information to show that any two lines are parallel.

22. Ricardo folded the paper below so that point X was on top of point Y.



Which type of line does the crease from his fold represent?

A. a bisector of $\angle Y$

B. a bisector of $\angle XZ$

C. a line parallel to \overline{ZY}

D. a bisector of $\angle Z$

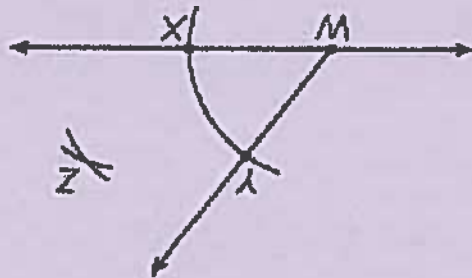
23. What geometric figure can be constructed given \overline{PM} , using the following steps of construction?



- Step 1: Draw a point in open space and label it K.
 Step 2: Place the two ends of the compass on P and M so that the width of the compass is equal to the distance between those two points.
 Step 3: Place the fixed end of the compass on point K and draw an arc.
 Step 4: Choose any point on that arc and label it L.
 Step 5: Connect K and L to get the desired figure.

- A. a line segment parallel to \overline{PM}
 B. a line segment congruent to \overline{PM}
 C. a line segment bisected by \overline{PM}
 D. a line segment perpendicular to \overline{PM}

24. Oscar and Julia are working on a geometry project together. They created the figure below containing point W and point Y.



They used a straightedge to draw \overline{WY} , set the two end points of the compass on W and Y, and drew an arc centered at W. This point defined X.

Without adjusting the width of the compass, Oscar drew arcs centered at Y and X to define point Z.

Oscar says that the line connecting Z and W will bisect $\angle YWX$. Julia says the line connecting Z and Y will

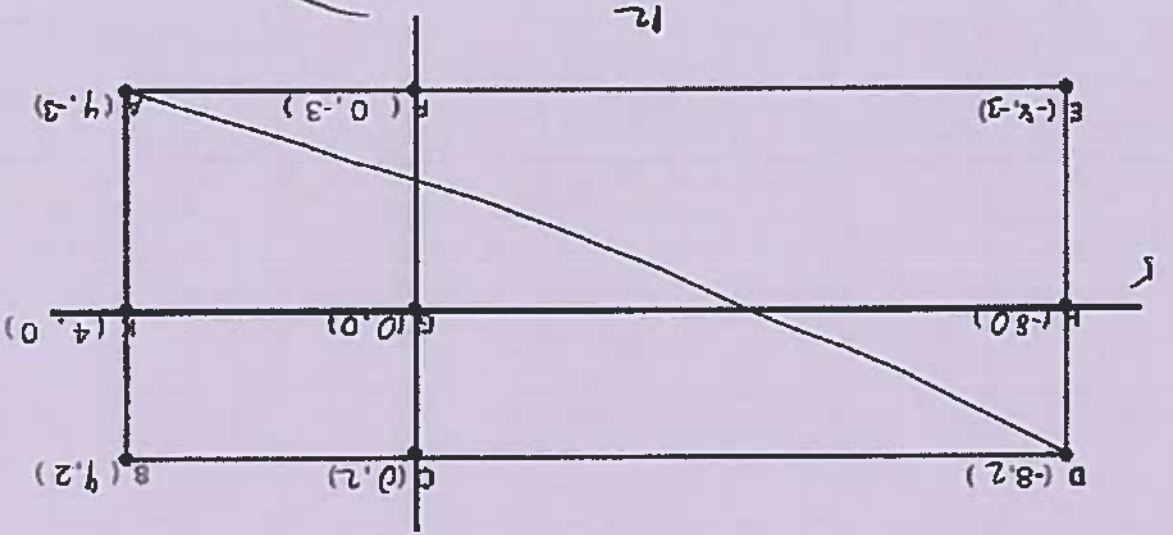
be parallel to \overline{WX} .

Which statement is true?

- A. Julia is correct, and Oscar is wrong.
 B. Oscar is correct, and Julia is wrong.
 C. Both Oscar and Julia are correct.
 D. Both Oscar and Julia are wrong.

- A. $AD = 5$
- B. $AD = 12$

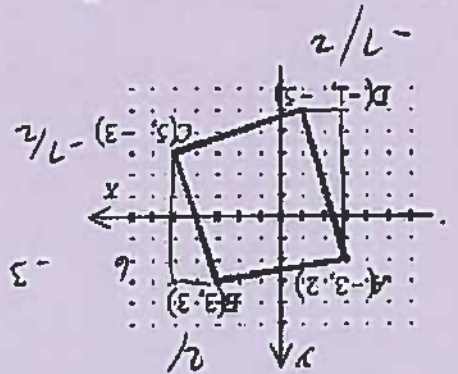
- C. $AD = 13$
- D. $AD = 18$



27. Use the given information to fill in the missing coordinates. Then find the length of \overline{DA} . Figure DBAE is a rectangle.

- A. No, because $m_{AD} = -\frac{7}{2}$ and $m_{BC} = -\frac{3}{1}$.
- B. Yes, because $m_{AD} = -\frac{3}{1}$ and $m_{BC} = -\frac{3}{3}$.

- C. No, because $m_{AD} = -\frac{2}{7}$ and $m_{BC} = -3$.
- D. Yes, because $m_{AD} = -3$ and $m_{BC} = -3$.



26. Is \overline{AD} parallel to \overline{BC} ?

- A. Show that the product of their slopes is 1.
- B. Show that the product of their slopes is -1.

- C. Show that their slopes are the same.
- D. Show that their y-intercepts are the same.

25. How can coordinate proof be used to show that two lines are parallel?

28. Use slopes to determine whether the lines are parallel, perpendicular, or neither.
 \overline{AB} and \overline{CD} for A(3, 5), B(-2, 7), C(10, 5), and D(6, 15).

$$\frac{7-5}{2} = \frac{-2-3}{-5} = -\frac{5}{5} = -1$$

$$\frac{6-10}{15-5} = \frac{-4}{10} = -\frac{2}{5}$$

A. The lines are parallel.

B. The lines are perpendicular.

C. The lines are neither parallel nor perpendicular.

D. There is not enough information.

29. Which equation describes the line that passes through (-3, 1) and is parallel to the line $y = 4x + 1$?

A. $y = 4x + 13$

B. $y = -\frac{1}{4}x + \frac{1}{4}$

C. $y = 4x - 11$

D. $y = -\frac{1}{4}x + \frac{4}{4}$

30. What is the equation of the perpendicular bisector of the segment with endpoints A(-10, 3) and B(2, -5)?

A. $y = -\frac{3}{2}x - 4$

B. $y = \frac{3}{2}x + 5$

C. $y = \frac{3}{2}x + 10$

D. $y = -\frac{3}{2}x - 2$

Midpoint: $(-4, -1)$

Slope: $\frac{-5-3}{2-(-10)} = \frac{-8}{12} = -\frac{2}{3}$

Slope of perpendicular bisector: $\frac{3}{2}$

Equation: $y - (-1) = \frac{3}{2}(x - (-4))$

$$y + 1 = \frac{3}{2}(x + 4)$$

$$y + 1 = \frac{3}{2}x + 6$$

$$y = \frac{3}{2}x + 5$$

