

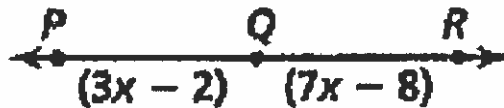
Midterm Review



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2. Find the value of x if $PR = 120$.



$$3x - 2 + 7x - 8 = 120$$

$$10x - 10 = 120$$

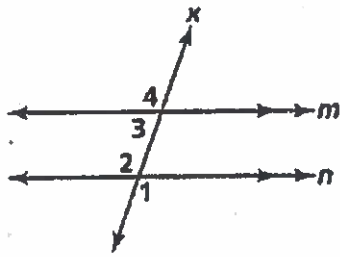
$$10x = 130$$

$$x = 13$$

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5. Given $m \parallel n$ cut by transversal x , which of the following statements is *not* true?



- A. $\angle 2$ and $\angle 3$ are same-side interior angles.
 B. $\angle 1$ and $\angle 3$ are alternate interior angles.
 C. $\angle 1$ and $\angle 2$ are vertical angles.
 D. $\angle 2$ and $\angle 4$ are corresponding angles.

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10. What is the distance between $(8, 7)$ and $(3, -5)$?

$$d = \sqrt{(8-3)^2 + (7+5)^2}$$

$$5^2 + 12^2$$

$$25 + 144$$

$$\sqrt{169}$$

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1 Line l_3 contains $A(-4, 2)$ and $B(3, 1)$. Line l_4 contains $C(-4, 0)$ and $D(8, -2)$. Are l_3 and l_4 parallel? Explain.

$$\frac{2-1}{-4-3} = \frac{1}{-7}$$

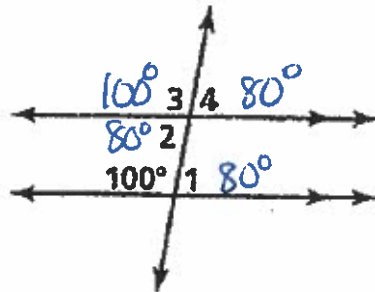
$$\frac{0+2}{-4-8} = \frac{2}{-12} = -\frac{1}{6}$$

no

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21. Find the measures of the numbered angles.



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26. If $\triangle BRX \cong \triangle EMS$, then which of the following is *not* true?

A. $\angle EMS \cong \angle BRX$

B. $\angle RBX \cong \angle MSE$

C. $\angle SME \cong \angle XRB$

D. $\angle MSE \cong \angle RXB$

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31. Find the coordinates of the midpoint of $(8, -5)$ and $(-4, 7)$.

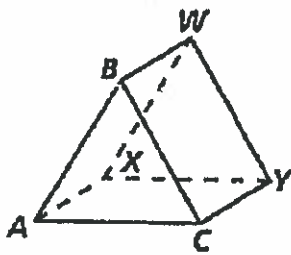
$$\left(\frac{8 + (-4)}{2}, \frac{-5 + 7}{2} \right)$$

$$(2, 1)$$

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34. What is the intersection of planes $AXYC$ and $BWYC$?



F. \overleftrightarrow{AX}

H. $\triangle ABC$

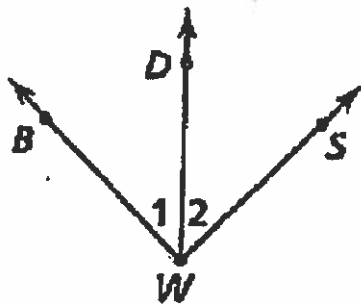
G. plane ABC

J. \overleftrightarrow{CY}

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35. \overrightarrow{DW} bisects $\angle BWS$. If $m\angle 1 = 3x + 8$ and $m\angle 2 = 4x - 5$, find $m\angle BWD$.



$$3x + 8 = 4x - 5$$

$$13 = x$$

$$m\angle 1 = 3(13) + 8$$

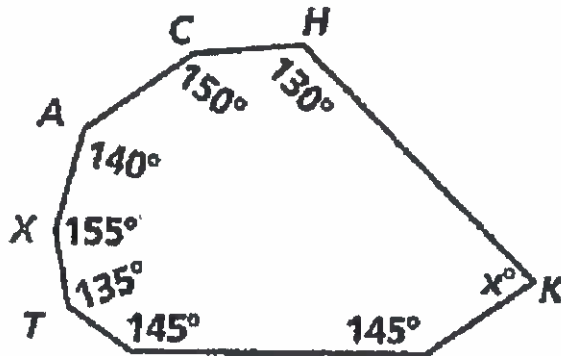
$$39 + 8$$

$$47^\circ$$

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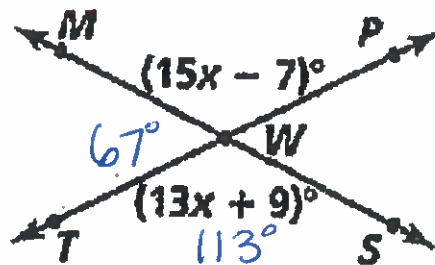
36. Find the value of x .



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37. Find $m\angle MWT$.



$$15x - 7 = 13x + 9$$

$$2x = 16$$

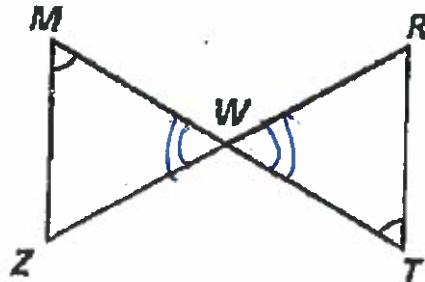
$$x = 8$$

$$\begin{array}{r} 13 \\ \times 8 \\ \hline 104 \\ + 9 \\ \hline 113 \\ 7 \\ 180 \\ - 113 \\ \hline 67 \end{array}$$

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38. Which two sides must be shown congruent to use AAS to prove $\triangle MZW \cong \triangle TRW$?

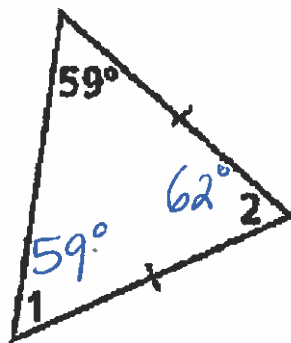


$\overline{MZ} \cong \overline{TR}$
OR
 $\overline{ZW} \cong \overline{RW}$

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40. Find $m\angle 1$ and $m\angle 2$.

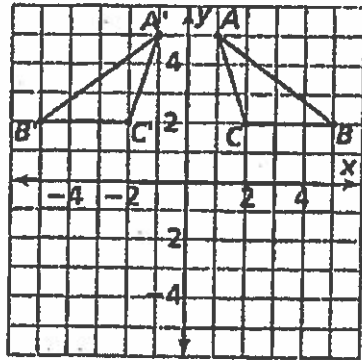


$$\begin{array}{r} 180 \\ - 118 \\ \hline 62 \end{array}$$

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12. Which transformation is illustrated in the figure shown?



- A. reflection *over y-axis*
- B. rotation
- C. translation
- D. glide reflection

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9. What is the image of $(-5, 3)$ under the translation $(x, y) \rightarrow (x - 1, y + 6)$?

Which directions does the rule indicate?

$$(-5-1, 3+6)$$

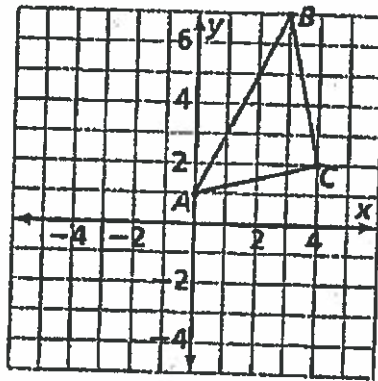
$$\boxed{(-6, 9)}$$

right 1, up 6

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Find the coordinates of the vertices of $\triangle ABC$ for each transformation.



A(0,1)
B(3,7)
C(4,2)

- 16. reflection across y -axis $A(0,1) B(-3,7) C(-4,2)$
- 17. translation $(x, y) \rightarrow (x + 4, y - 3)$ $A(4,-2) B(1,4) C(0,-1)$
- 18. rotation of 90° about the point $(0, 0)$

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4. Which pair of lines is perpendicular?

F. $y = 5x + 2$

G. $y = x - 1$

$y = 5x + 3$

$y = -x + 7$

H. $y = 4x + 5$

J. $y = 2x - 1$

$y = \frac{1}{4}x - 2$

$y = -2x + 2$

Parallel →

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8. What types of symmetry does the figure have?



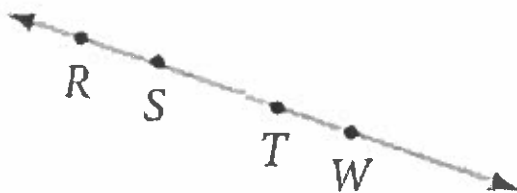
rotational

What is the angle of rotation?

$$360 \div 3 = 120^\circ$$

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Name a ray opposite to \overrightarrow{TW}

\overrightarrow{TS} or \overrightarrow{TR}

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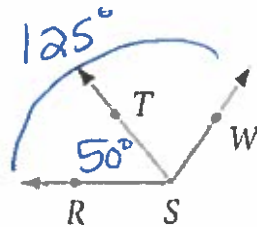
What is the complement of 63° ?

$$\begin{array}{r} 890 \\ -63 \\ \hline 27^\circ \end{array}$$

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What is $m\angle TSW$ if $m\angle RST = 50$ and $m\angle RSW = 125$?



$$\begin{array}{r} 125^\circ \\ -50 \\ \hline 75^\circ \end{array}$$

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Write an equation for the line through $(-3, 7)$ and perpendicular to $y = -3x - 5$.

$$m = \frac{1}{3}$$

$$y - 7 = \frac{1}{3}(x + 3)$$

$$y - 7 = \frac{1}{3}x + 1$$

$$y = \frac{1}{3}x + 8$$

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If a transversal intersects 2 parallel lines, then the following types of angles are congruent....

alternate interior
alternate exterior
corresponding

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(24)

If a transversal intersects 2 parallel lines, then the following types of angles are supplementary....

Same side interior
Same side exterior

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(25)

The sum of the exterior angles of any polygon is...

360°

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$$(9-2) \cdot 180^\circ$$

the sum of the interior angles of a nonagon is 1260°

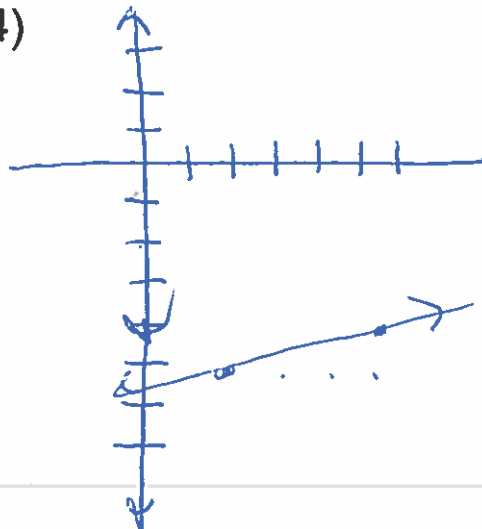
$$(9-2)180^\circ$$

$$7(180^\circ)$$

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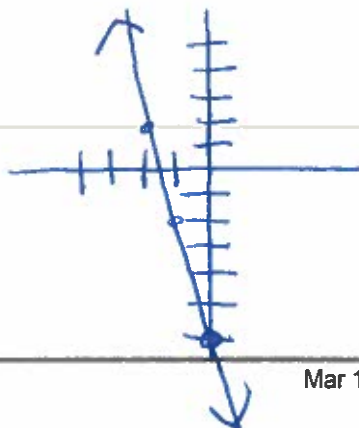
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Graph a line with a slope of $\frac{1}{4}$ and goes through the point $(6, -4)$



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Graph $y = -4x - 6$



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If $\overline{AB} \cong \overline{MN}$ and $\overline{BC} \cong \overline{NP}$,
then $\overline{AC} \cong \overline{MP}$.

$$BD = \underline{NR}$$

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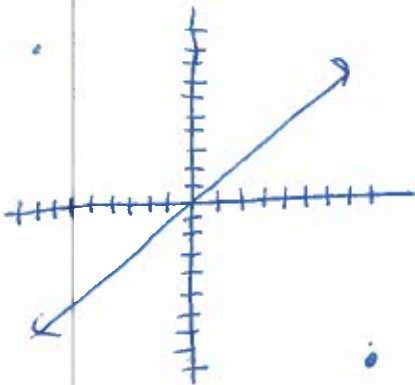
30

Reflect the point $(8, -9)$ over the line

$$y = x.$$

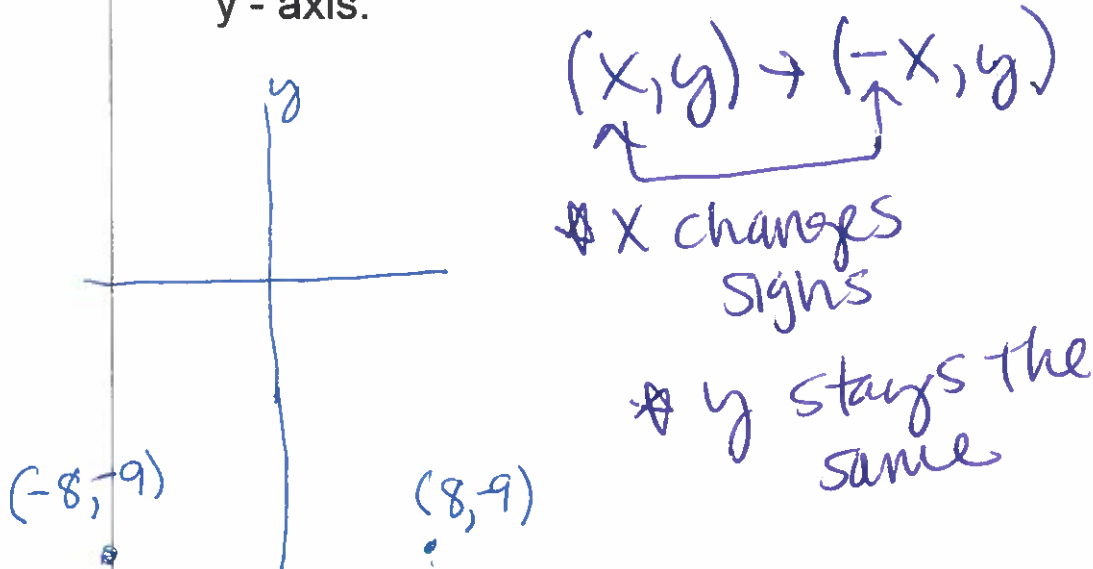
$$(-9, 8)$$

$$(x, y) \rightarrow (y, x)$$



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Reflect the point $(8, -9)$ over the line
 y - axis.



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Which type of isometry is the equivalent of 2 reflections across intersecting line?

rotation

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