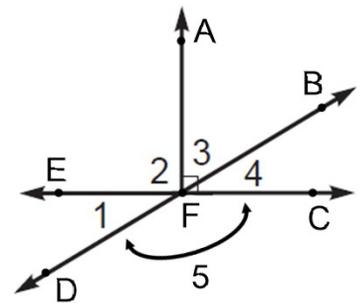


Use the word bank below to answer questions 1 and 2.

- Complementary
- Bisector
- Corresponding angles
- Alternate exterior angles
- Supplementary
- Adjacent angle
- Alternate interior angles
- Same side interior angles
- Linear Pair
- Vertical angle

1. Use the diagram on the right and the word bank to answer the following questions.

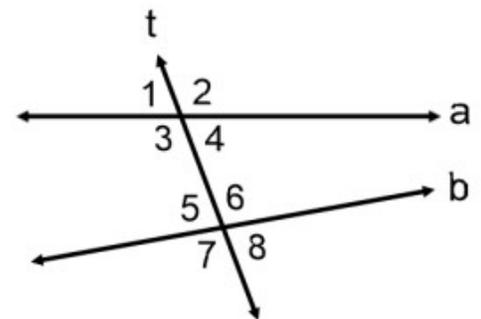
- A) Angles 1 and 4 form _____.
- B) Angles 1 and 2 are _____.
- C) Angles 1 and 5 are _____.
- D) If $\angle 3 \cong \angle 4$, then \overrightarrow{FB} is a _____.
- E) Angles 3 and 4 form a right angle, so they are _____.



2. Use the diagram on the right and the word bank to answer the following questions.

What type of angle relationship is demonstrated by each pair of angles?

- A) $\angle 2$ and $\angle 7$ _____
- B) $\angle 3$ and $\angle 6$ _____
- C) $\angle 3$ and $\angle 7$ _____
- D) If $a \parallel b$, will $\angle 4$ and $\angle 6$ be congruent or supplementary? (circle one)

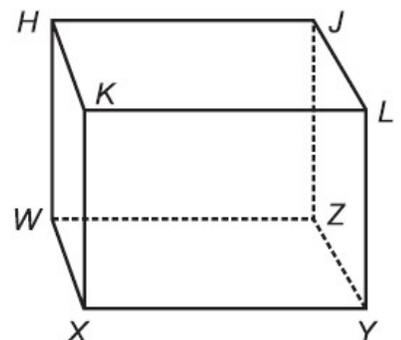


3. Use the diagram on the right to answer the following questions.

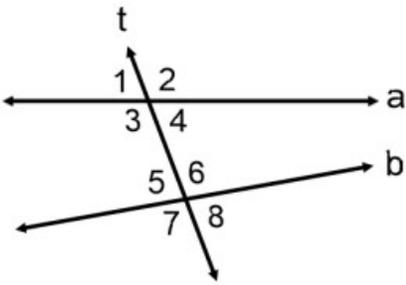
- A) Plane HKX and JLK are parallel, perpendicular, skew, or intersecting?

- B) Segment HJ and segment XY are parallel, perpendicular, skew, or intersecting?

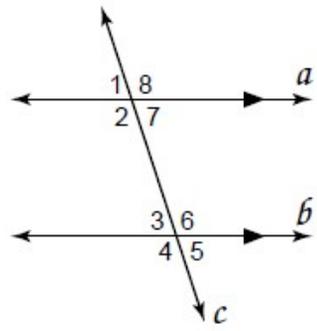
- C) Name the plane parallel to plane HJZ.



4.



5.



In the diagram above, $a \nparallel b$. If $m\angle 1 = 78^\circ$ and $m\angle 6 = 104^\circ$, find the measures of all the missing \angle s.

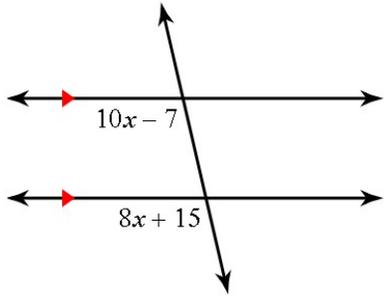
In the diagram above, $a \parallel b$. If $m\angle 8 = 105^\circ$, find the measures of all the missing \angle s.

$m\angle 2 = \underline{\hspace{2cm}}$, $m\angle 3 = \underline{\hspace{2cm}}$, $m\angle 4 = \underline{\hspace{2cm}}$,
 $m\angle 5 = \underline{\hspace{2cm}}$, $m\angle 6 = \underline{\hspace{2cm}}$, $m\angle 8 = \underline{\hspace{2cm}}$,

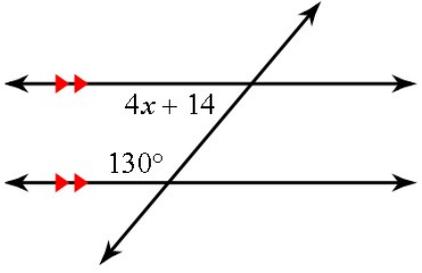
$m\angle 2 = \underline{\hspace{2cm}}$, $m\angle 3 = \underline{\hspace{2cm}}$, $m\angle 4 = \underline{\hspace{2cm}}$,
 $m\angle 5 = \underline{\hspace{2cm}}$, $m\angle 6 = \underline{\hspace{2cm}}$, $m\angle 7 = \underline{\hspace{2cm}}$,

For numbers 5 – 12, solve for x and state the angle relationship that is demonstrated in the diagram.

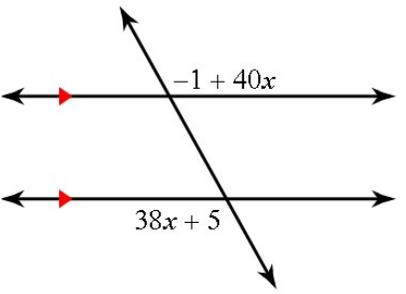
6.



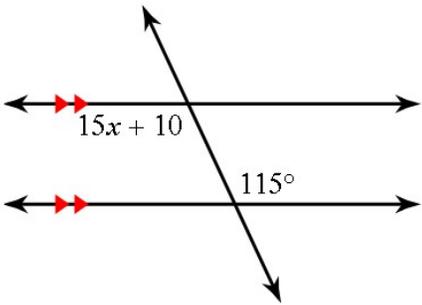
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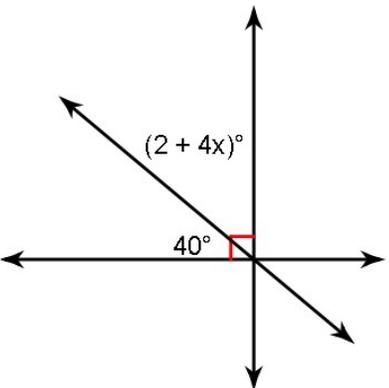
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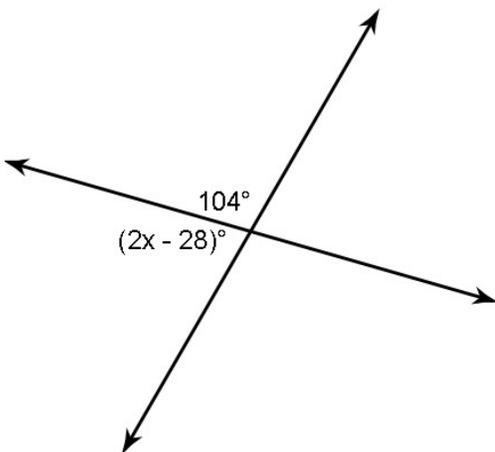
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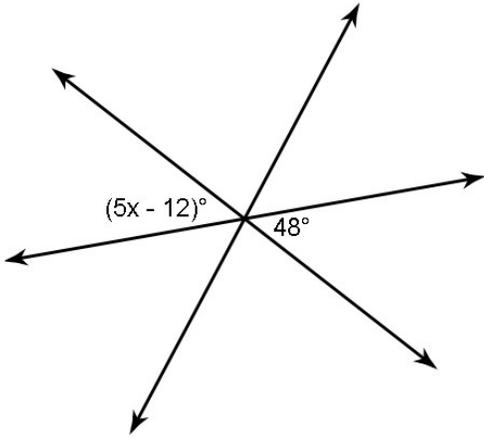
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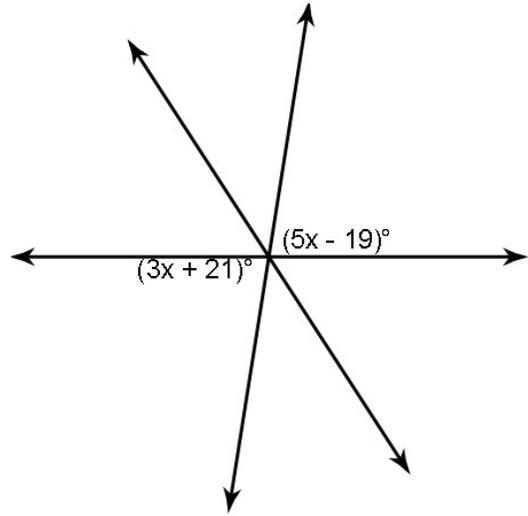
11.



12.

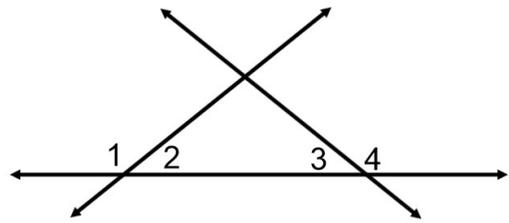


13.



14. Given: $\angle 2 \cong \angle 3$

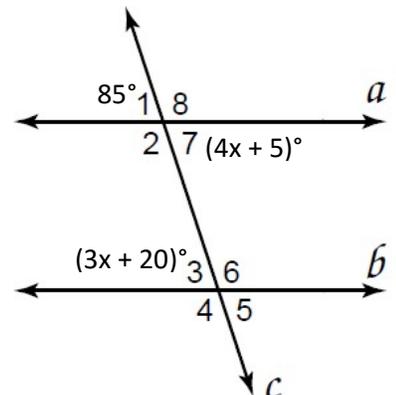
Prove: $\angle 1 \cong \angle 4$



Statements

Reasons

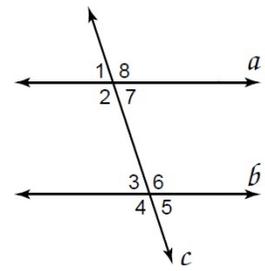
15. Is $a \parallel b$? Explain why or why not with complete sentences, using the following terms: vertical angles, alternate interior angles, or corresponding angles. Show the work that helped lead you to your conclusion.



16. Prove that parallel lines make alternate interior angles congruent. (You cannot use if lines $// \rightarrow$ alt interior $\angle s \cong$, but you can use vertical and corresponding \angle theorems)

Given: $a//b$

Prove: $\angle 7 \cong \angle 3$

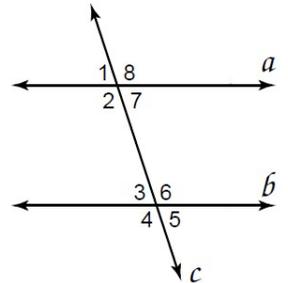


| Statements | Reasons |
|------------|---------|
| | |

17. Prove if corresponding angles are congruent, then lines are parallel. (You cannot use if alternate interior $\angle s \cong \rightarrow$ lines $//$).

Given: $\angle 2 \cong \angle 6$

Prove: $a//b$



| Statements | Reasons |
|------------|---------|
| | |

18. $\angle ABC$ is translated along \overleftrightarrow{DE} . Explain how this transformation demonstrates the following:

If lines are $//$, then corresponding angles are \cong .

If corresponding angles are \cong , then lines are $//$.

