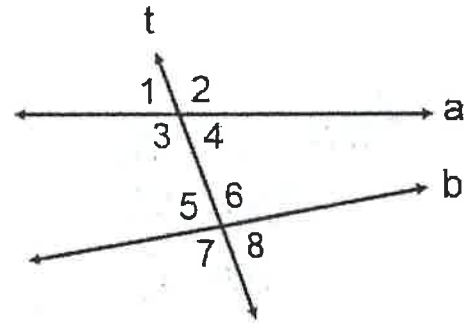
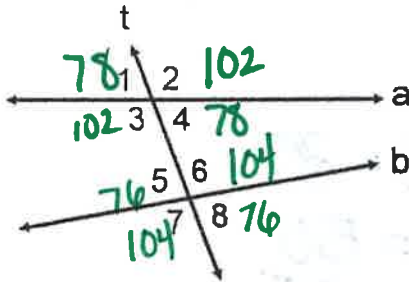


Use the diagram on the right and the word bank to answer the following questions.
 What type of angle relationship is demonstrated by each pair of angles?



- A) $\angle 2$ and $\angle 7$ alt. ext. Δ s
- B) $\angle 3$ and $\angle 6$ alt. int. Δ s
- C) $\angle 5$ and $\angle 8$ vert. Δ s
- D) $\angle 3$ and $\angle 7$ corres. Δ
- E) $\angle 4$ and $\angle 6$ SSI
- F) $\angle 1$ and $\angle 2$ Linear pair

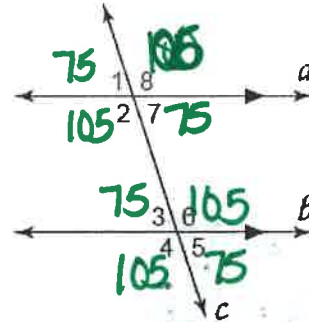
2.



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.

- $m\angle 2 = 102$, $m\angle 3 =$ _____, $m\angle 4 =$ _____
 $m\angle 5 =$ _____, $m\angle 6 =$ _____, $m\angle 8 =$ _____

3.

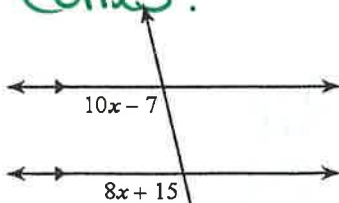


In the diagram above, $a \parallel b$. If $m\angle 8 = 105^\circ$, find the measures of all the missing \angle s.

- $m\angle 2 =$ _____, $m\angle 3 =$ _____, $m\angle 4 =$ _____
 $m\angle 5 =$ _____, $m\angle 6 =$ _____, $m\angle 7 =$ _____

For numbers 5 – 10, solve for x and state the angle relationship that is demonstrated in the diagram.

4. Corres.

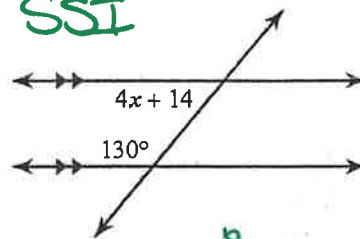


$$10x - 7 = 8x + 15$$

$$2x = 22$$

$$x = 11$$

5. SSI



$$4x + 14 + 130 = 180$$

$$4x + 144 = 180$$

$$4x = 36$$

$$x = 9$$

12. 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.

$$4x + 5 = 85$$

$$4x = 80$$

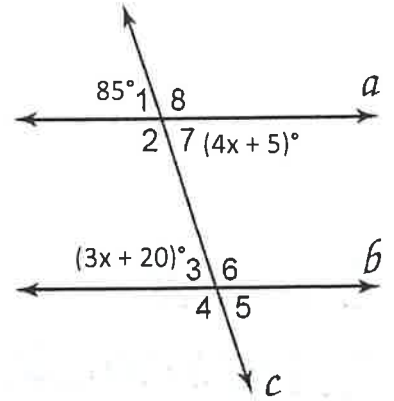
$$x = 20$$

If $a \parallel b$ then $\angle 7 \cong \angle 3$

$$m\angle 7 = 85^\circ$$

$$m\angle 3 = 3(20) + 20 = 80$$

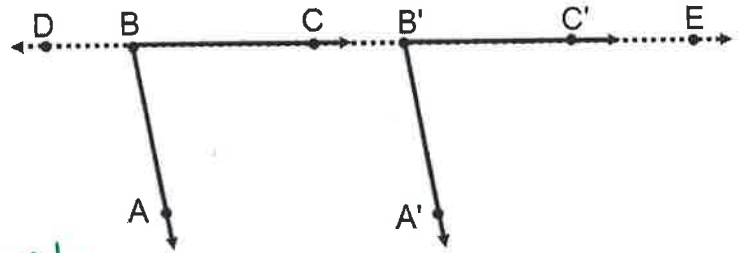
a is not \parallel to b



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

If lines are \parallel , then corresponding angles are \cong .

If corresponding angles are \cong , then lines are \parallel .



The translation of $\angle ABC$ is isometric so $\angle A'B'C'$ is congruent to $\angle ABC$. These angles are corresponding. \overline{DE} is the transversal making $\overrightarrow{BA} \parallel \overrightarrow{B'A'}$