Parallel Lines Common Unit Assessment **Name:** _____

G.CO.C.9

Directions: for #1-5, use the diagram to the right.

1. Identify the pairs of alternate interior angles. Circle all that apply.

A) 1 and 2 B) 3 and 6

C) 2 and 6 D) 4 and 6

E) 3 and 5 F) 1 and 5

2. Identify the pairs of same side interior angles. Circle all that apply.

A) 1 and 2 B) 3 and 6 C) 3 and 5 D) 4 and 6 E) 7 and 3 F) 1 and 5

3. Identify the pairs of corresponding angles. Circle all that apply.

A) 1 and 2 B) 3 and 6 C) 2 and 6 D) 4 and 6 E) 7 and 3 F) 1 and 5

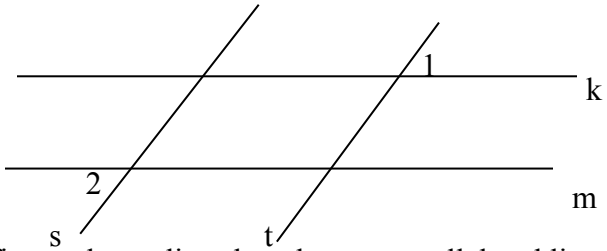
4. Identify pairs of vertical angles. Circle all that apply.

A) 1 and 4 B) 3 and 6 C) 2 and 3 D) 4 and 6 E) 7 and 3 F) 1 and 5

5. Given $m \parallel n$, determine whether each pair of angles is Supplementary or Congruent. Justify your choice using the following word bank: Alternate-Interior, Vertical, Linear Pair, Corresponding, or Same-Side Interior.

Pair	1 and 2	3 and 6	2 and 6	4 and 6	7 and 3	1 and 5
Supplementary/ Congruent						
Justification						

6.

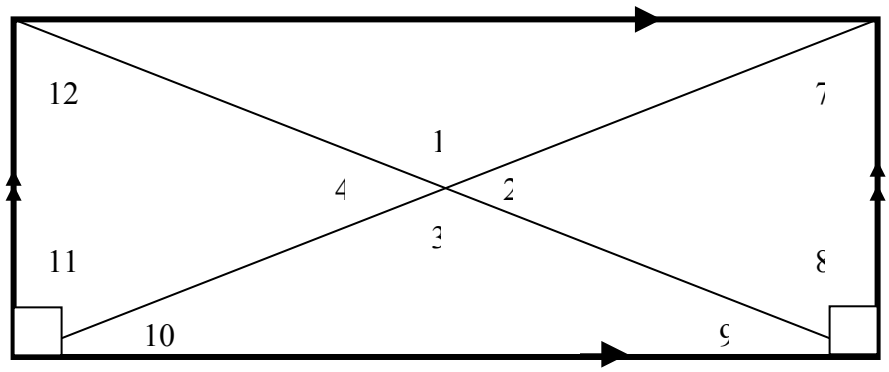


In the figure above, lines k and m are parallel and lines s and t are parallel. If the measure of angle 1 is 40 degrees, what is the measure of angle 2?

a. 140 degrees b. 50 degrees

a. 40 degrees d. 80 degrees

7. Use the figure and questions below to determine the measure of Alternate Interior Angles, Vertical Angles, Corresponding Angles, Same-Side Interior Angles and Adjacent Angles (Linear Pair).



a. The $m\angle 5 = 33°$. Find $m\angle 8$. Explain how you found your answer using angle relationships or theorems/postulates.

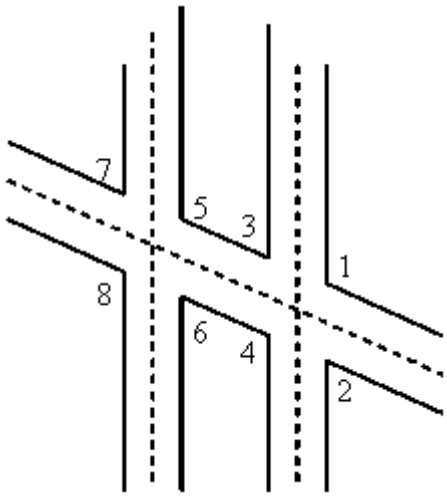
b. The $m\angle 1 = 114°$. Find each of the following angles. Explain how you found your answer using angle relationships or theorems/postulates.

Angle	Explanation
$m\angle 2 =$	
$m\angle 3 =$	
$m\angle 4 =$	

c. If $m\angle 12 = (4x + 5)°$, find x. Show how you found your answer and explain how you found your answer using angle relationships or theorems/postulates.

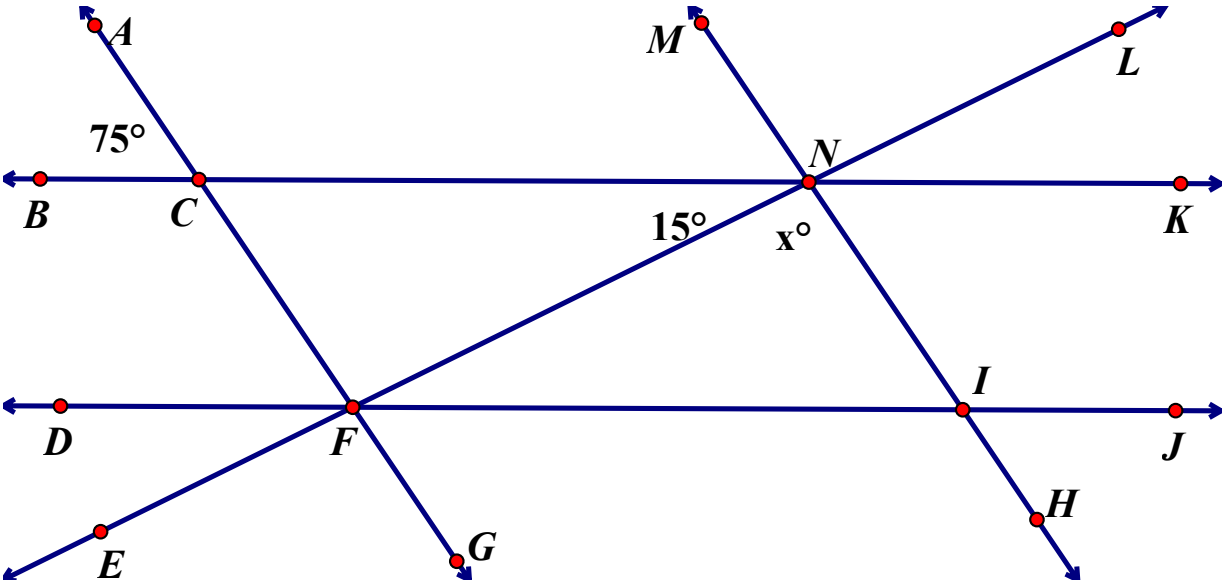
Find x	Explain

8. The diagram of an airport runway intersection shows two parallel runways. A taxiway crosses both runways.



a. If $m\angle 8 = 119°$, what is the ***sum*** of the measures of $\angle 1$ and $\angle 4$? Explain how you know using angle relationships or theorems/postulates.

b. How are $\angle 6$ and $\angle 2$ related?



9. Use the diagram above. Find x. Given $\overleftrightarrow{AG} \parallel \overleftrightarrow{MH}$.
(All boxes may not be filled).

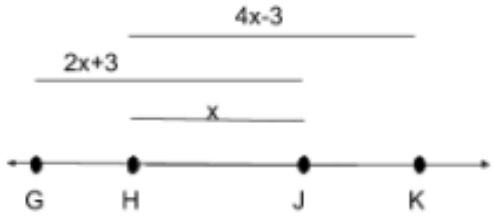
Statements	**Reasons**

For #10, use the diagram to the right.

10. Given: If $m \| n$,
Prove: $\angle 6 \cong \angle 3$

Statements	Reasons
1) $m \| n$	1) Given
2) $\angle 2 \cong \angle 6$	2)
3) $\angle 2 \cong \angle 3$	3)
4)	4)

11. Find GH and JK given that GK=65



12. Solve for x given that m∠AOB=33, m∠BOC=3x-2, m∠AOD=7x.