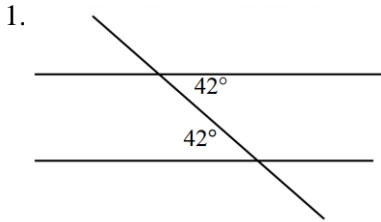


Name: _____

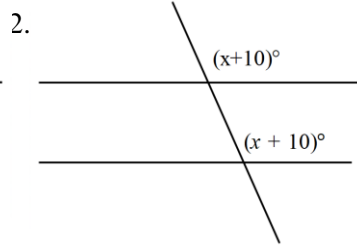
Period: _____

7.3 Proving Parallel Lines

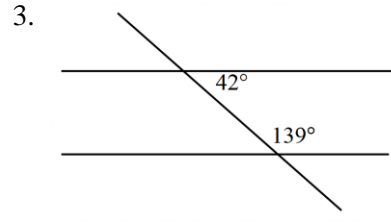
Determine whether each set of lines are parallel or not. Explain your reasoning (state the postulate or theorem that justifies your answer).



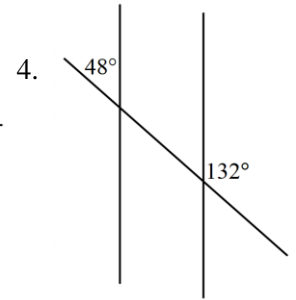
_____ by _____



_____ by _____

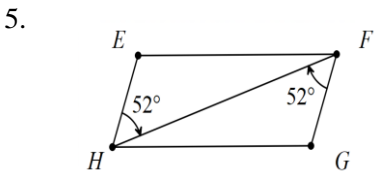


_____ by _____

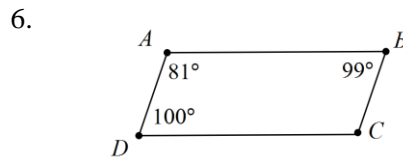


_____ by _____

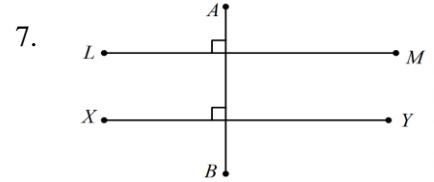
State which segments (if any) must be parallel. Explain your reasoning. State the postulate or theorem that justifies your answer.



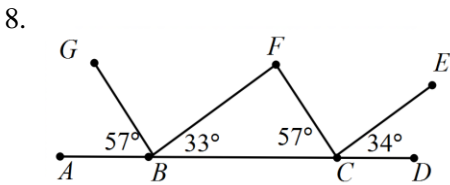
_____ by _____



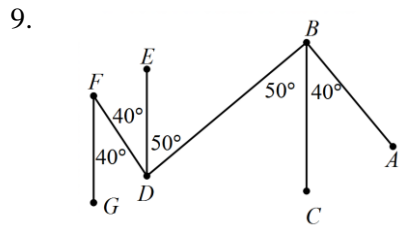
_____ by _____



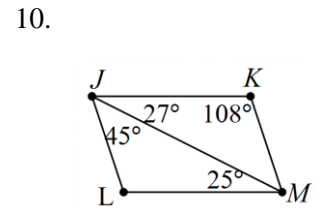
_____ by _____



_____ by _____

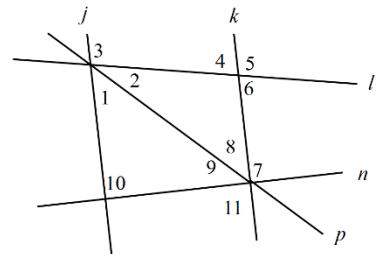


_____ by _____



_____ by _____

Name the lines (if any) that must be parallel. If there are no such lines, write none. State the postulate or theorem that justifies your answer.



11. $\angle 1 \cong \angle 8$ _____ by _____

12. $\angle 4 \cong \angle 6$ _____ by _____

13. $\angle 10 \cong \angle 7$ _____ by _____

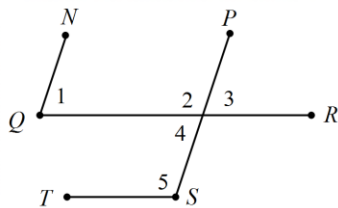
14. $m\angle 3 + m\angle 4 = 180$ _____ by _____

15. $\angle 5 \cong \angle 6$ _____ by _____

16. $\angle 6 \cong \angle 7$ _____ by _____

17. $\angle 5 \cong \angle 11$ _____ by _____

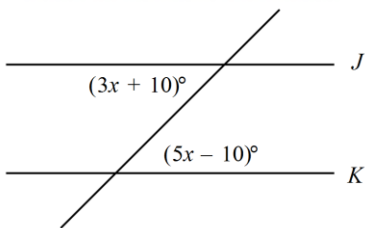
Name the segments (if any) that must be parallel. If there are no such lines, write none. State the postulate or theorem that justifies your answer.



18. $\angle 1 \cong \angle 3$ _____ by _____
19. $\angle 1 \cong \angle 4$ _____ by _____
20. $\angle 2 \cong \angle 5$ _____ by _____
21. $\angle 3 \cong \angle 5$ _____ by _____
22. $\angle 4$ is supplementary to $\angle 5$ _____ by _____

Find the value of x that makes $J \parallel K$. Explain your reasoning (state the postulate or theorem that justifies your answer).

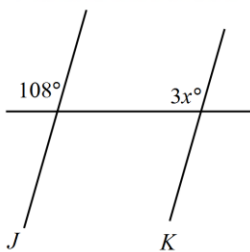
23.



$x =$ _____

Explain

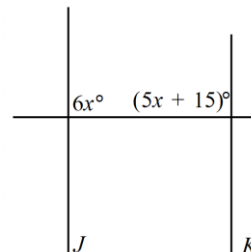
24.



$x =$ _____

Explain

25.

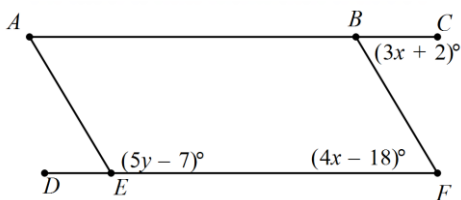


$x =$ _____

Explain

Find the values of x and y that make $\overline{AC} \parallel \overline{DF}$ and $\overline{AE} \parallel \overline{BF}$. Explain your reasoning (state the postulate or theorem that justifies your answer).

26.



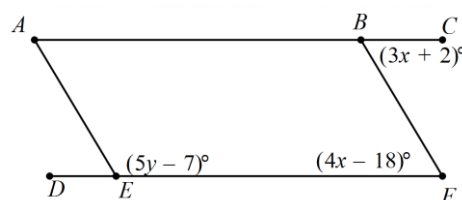
$x =$ _____

$y =$ _____

Explain

Explain

27.



$x =$ _____

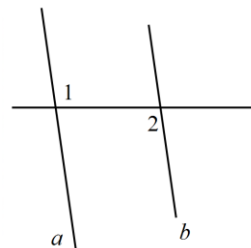
$y =$ _____

Explain

Explain

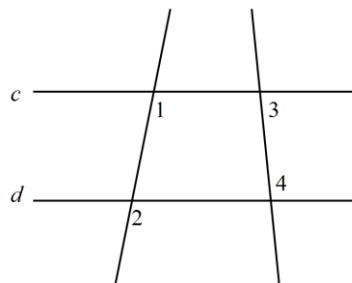
28. Given $\angle 1 \cong \angle 2$. Prove $a \parallel b$.

Statements	Reasons
1. $\angle 1 \cong \angle 2$	1.
2. $a \parallel b$	2.



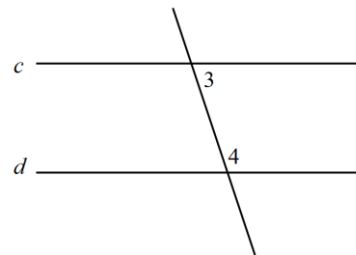
29. Given $\angle 1 \cong \angle 2$. Prove $\angle 3$ & $\angle 4$ are supplementary.

Statements	Reasons
1.	1.
2.	2.
3.	3.



30. Given $m\angle 3 + m\angle 4 = 180$ and the $m\angle 3 = 80$. Prove $m\angle 4 = 100$.

Statements	Reasons
1. $m\angle 3 + m\angle 4 = 180$	1.
2. $c \parallel d$	2.
3. $m\angle 3 = 80$	3.
4. $80 + m\angle 4 = 180$	4.
5. $m\angle 4 = 100$	5.



31. Given $\angle 9 \cong \angle 10$, $m\angle 3 = (6x-16)^\circ$, $m\angle 5 = (5x+4)^\circ$. Prove $x = 20$. Hint: You must prove the c & d are parallel.

Statements	Reasons

