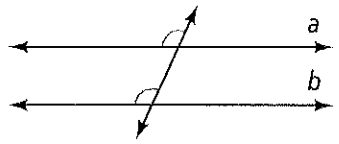
Proving Lines are Parallel

Name _____

Block_____ **Date**_____

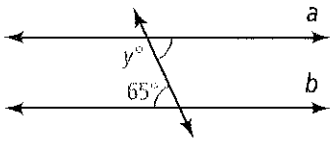
1. State the theorem or postulate that proves a // b.



Theorem/Postulate:

_____

2. State the theorem or postulate that proves a // b.



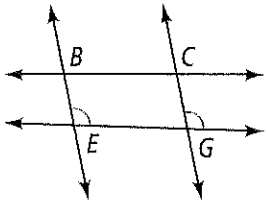
Theorem/Postulate:

_____

What is the value of y in order for a || b?

$y =$ _____

3. Which lines or segments are parallel? State the theorem or postulate that justifies your answer.

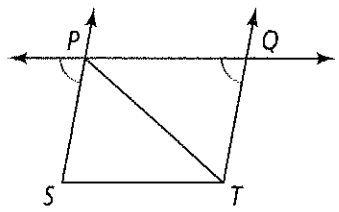


_____ || _____

Theorem/Postulate:

_____

4. Which lines or segments are parallel? State the theorem or postulate that justifies your answer.

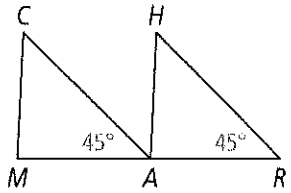


_____ || _____

Theorem/Postulate:

_____

5. Which lines or segments are parallel? State the theorem or postulate that justifies your answer.

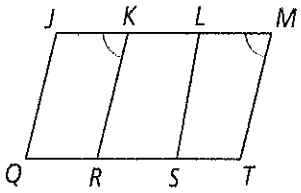


_____ || _____

Theorem/Postulate:

_____

6. Which lines or segments are parallel? State the theorem or postulate that justifies your answer.

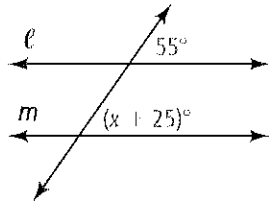


_____ || _____

Theorem/Postulate:

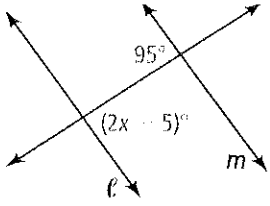
_____

7. Calculate the value of x for which $\ell \parallel m$



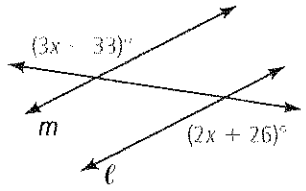
$x =$ _____

8. Calculate the value of x for which $\ell \parallel m$



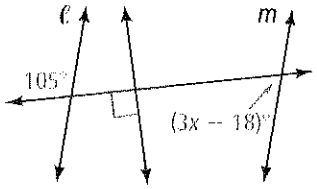
$x =$ _____

9. Calculate the value of x for which $\ell \parallel m$



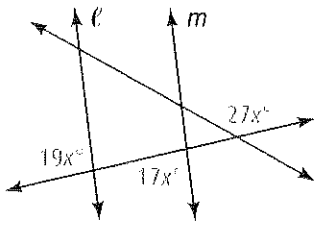
$x =$ _____

10. Calculate the value of x for which $\ell \parallel m$



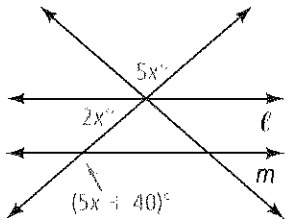
$x =$ _____

11. Calculate the value of x for which $\ell \parallel m$



$x =$ _____

12. Calculate the value of x for which $\ell \parallel m$



$x =$ _____

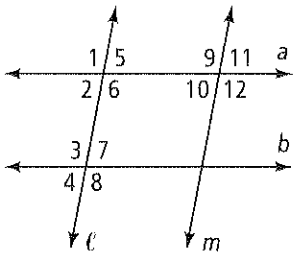
Using the sketch to the right, determine which lines, if any, are parallel. Justify each conclusion with a theorem or postulate. IF lines cannot be determined parallel, explain why.

13. $\angle 2$ is supplementary to $\angle 3$

_____ $\parallel$ _____

Why?

_____



14. $\angle 1 \cong \angle 3$

_____ $\parallel$ _____

Why?

_____

15. $\angle 9 \cong \angle 12$

_____ $\parallel$ _____

Why?

_____

16. $\angle 6$ is supplementary to $\angle 7$

_____ $\parallel$ _____

Why?

_____

17. $\angle 1 \cong \angle 8$

_____ $\parallel$ _____

Why?

_____

18. $\angle 8 \cong \angle 6$

_____ $\parallel$ _____

Why?

_____

19. $\angle 2 \cong \angle 10$

_____ $\parallel$ _____

Why?

_____

20. $\angle 5 \cong \angle 10$

_____ $\parallel$ _____

Why?

_____

21. $m\angle 7 = 65°$ and $m\angle 9 = 115°$

_____ $\parallel$ _____

Why?

_____

22. $\angle 11 \cong \angle 7$

_____ $\parallel$ _____

Why?

_____