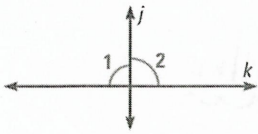


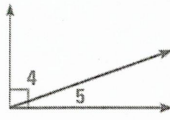
Unit 3- Worksheet #3 Worksheet: Prove Lines Perpendicular

Write the theorem that justifies the statement.

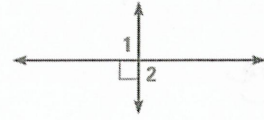
1. $j \perp k$



2. $\angle 4$ and $\angle 5$ are complementary



3. $\angle 1$ and $\angle 2$ are right angles



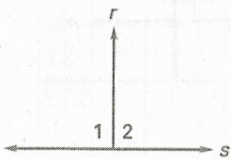
Congruent Linear Pairs
Thrm (Thrm 3.8)

Complementary Adjacent
Acute Angles Thrm
(Thrm 3.10)

Perpendicular Lines
Right Angle Thrm
(Thrm 3.9)

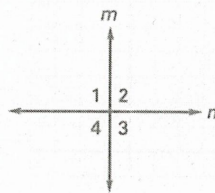
What can you conclude from the given information? **Justify your conclusion.**

4. $\angle 1 \cong \angle 2$



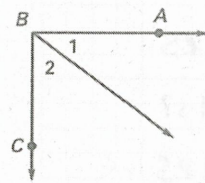
$r \perp s$

5. $n \perp m$



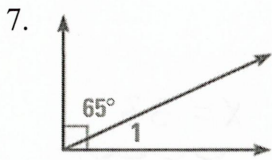
$\angle 1, \angle 2, \angle 3, \angle 4$ are
right angles

6. $\overline{BA} \perp \overline{BC}$

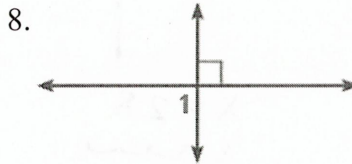


$\angle 1$ and $\angle 2$ are
complementary

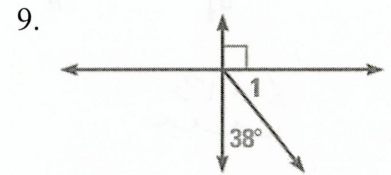
Find the $m\angle 1$.



$m\angle 1 = 25^\circ$

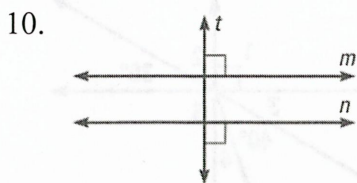


$m\angle 1 = 90^\circ$

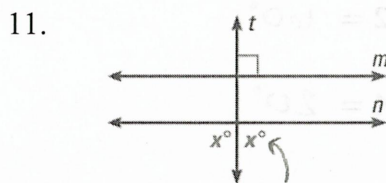


$m\angle 1 = 52^\circ$

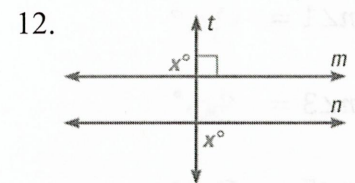
Write the theorem that justifies the statement: $m \parallel n$.



Lines \perp to a Transversal
Thrm (Thrm 3.12)

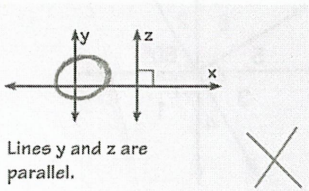


Congruent Linear Pairs
Thrm (Thrm 3.8)
Lines \perp to a Transversal
Thrm (Thrm 3.12)



Alternate Exterior
Angles Converse

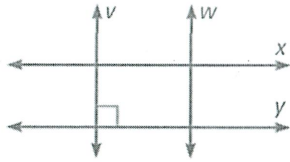
13. Explain why the statement about the figure is incorrect.



Lines y and z are
parallel.

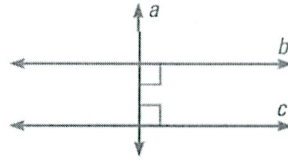
Determine which lines, if any, must be parallel. **Justify your conclusion.**

14.



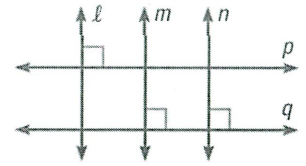
None

15.



b || c

16.



m || n

Use the diagram to answer the following. **Justify your conclusion.**

17. Is $r \parallel s$?

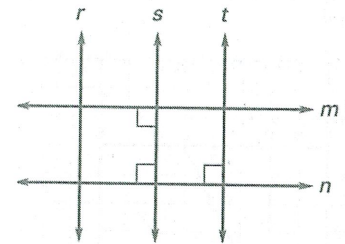
No

18. Is $m \parallel n$?

Yes

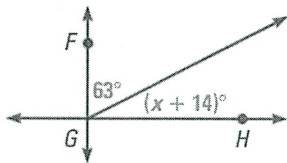
19. Is $t \parallel s$?

Yes



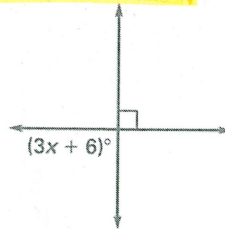
In the diagram, $\overline{FG} \perp \overline{GH}$. Find the value of x . **Show your work.**

20.



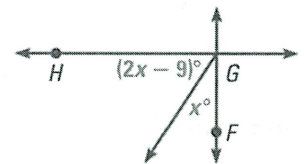
$x = 13$

21.



$x = 28$

22.



$x = 33$

23. Find all the unknown angle measures in the diagram at the right.

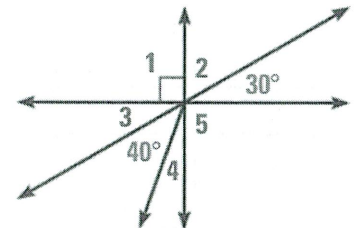
$$m\angle 1 = 90^\circ$$

$$m\angle 2 = 60^\circ$$

$$m\angle 3 = 30^\circ$$

$$m\angle 4 = 20^\circ$$

$$m\angle 5 = 90^\circ$$



24. Find all the unknown angle measures in the diagram at the right.

$$m\angle 1 = 90^\circ$$

$$m\angle 2 = 30^\circ$$

$$m\angle 3 = 60^\circ$$

$$m\angle 4 = 30^\circ$$

$$m\angle 5 = 30^\circ$$

$$m\angle 6 = 60^\circ$$

