3.4 Day 2 Homework
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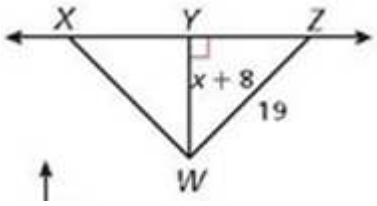
#6-7, 10-12, 14, 16-21, 22, 24, 31, 33

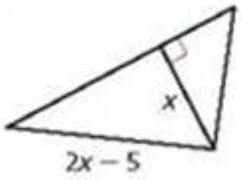
6. Name the shortest segment from point W to $\overline{XZ}$.

7. Write and solve an inequality for x.

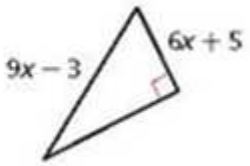


For each diagram, write and solve an inequality for x.

10.

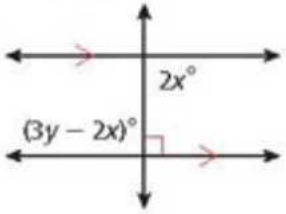


11.

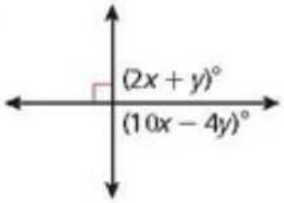


Multi-Step Solve to find x and y

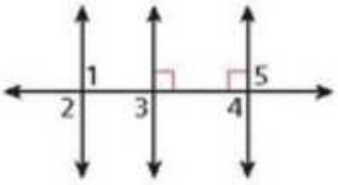
12.



14.



Determine if there is enough information given in the diagram to prove each statement.



16. $\angle 1 \cong \angle 2$

17. $\angle 1 \cong \angle 3$

18. $\angle 2 \cong \angle 3$

19. $\angle 2 \cong \angle 4$

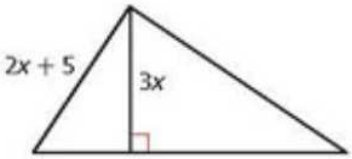
20. $\angle 3 \cong \angle 4$

21. $\angle 3 \cong \angle 5$

22. **Critical Thinking** Are the Reflexive, Symmetric, and Transitive Properties true for perpendicular lines? Explain why or why not.
Reflexive: $\ell \perp \ell$
Symmetric: If $\ell \perp m$, then $m \perp \ell$.
Transitive: If $\ell \perp m$ and $m \perp n$, then $\ell \perp n$.

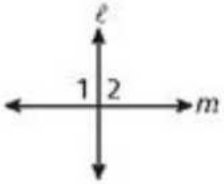
24. **Geography** Felton Avenue, Arlee Avenue, and Viehl Avenue are all parallel. Broadway Street is perpendicular to Felton Avenue. Use the satellite photo and the given information to determine the values of x and y.

31. Which inequality is correct for the given diagram?



(A) $2x + 5 < 3x$ (C) $2x + 5 > 3x$
(B) $x > 1$ (D) $x > 5$

33. If $\ell \perp m$, which statement is NOT correct?



(A) $m\angle 2 = 90°$
(B) $m\angle 1 + m\angle 2 = 180°$
(C) $\angle 1 \cong \angle 2$
(D) $\angle 1 \perp \angle 2$