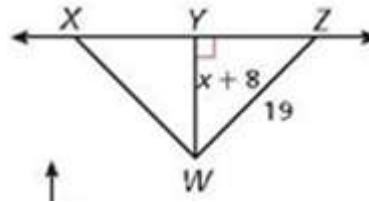


Key

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

\overline{YW}



7. Write and solve an inequality for x .

1st $x+8 < 19$

$x < 11$

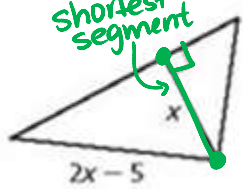
2nd $x+8 > 0$

$x > -8$

$-8 < x < 11$ ← x must be between -8 and 11

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

10.



$x < 2x - 5$

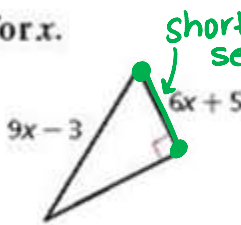
$-x < -5$
 $x > 5$

Switch sign when \div by a negative #

~~$2x - 5 > 0$~~
 ~~$2x > 5$~~
 ~~$x > 2.5$~~

$x > 5$

11.



1st $6x+5 < 9x-3$

$8 < 3x$

$\frac{8}{3} < x$

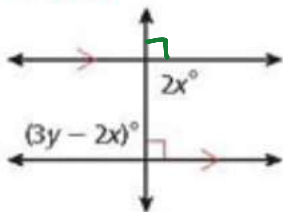
$x > \frac{8}{3}$

2nd $9x-3 > 0$
 ~~$9x > 3$~~
 ~~$x > \frac{1}{3}$~~

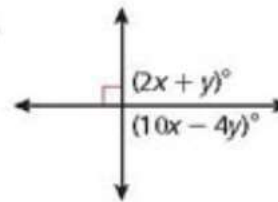
3rd ~~$6x+5 > 0$~~
 ~~$6x > -5$~~
 ~~$x > -\frac{5}{6}$~~

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. $\angle 1 \cong \angle 2$

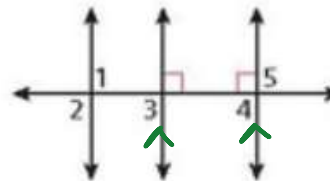
17. $\angle 1 \cong \angle 3$

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 $m \perp \ell$.

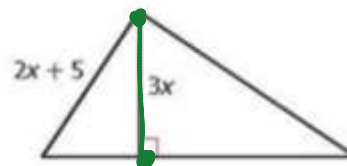
Transitive: If $\ell \perp m$ and $m \perp n$, then $\ell \perp n$.

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 $x > 5$



$$3x < 2x + 5$$

$$x < 5$$

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

- A $m\angle 2 = 90^\circ$
 B $m\angle 1 + m\angle 2 = 180^\circ$
 C $\angle 1 \cong \angle 2$
 D $\angle 1 \perp \angle 2$

