Find the measurement of each segment.
Assume that each figure is not drawn to scale.

17. $\overline{SV}$
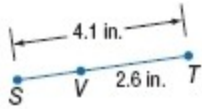
SOLUTION:

$ST = SV + VT$	Betweenness of points
$ST - VT = SV + VT - VT$	$-VT$ from each side.
$ST - VT = SV$	Simplify.
$4.1 - 2.6 = SV$	Substitution
$1.5 = SV$	Subtraction.

So, $SV = 1.5$ in.

18. $\overline{WY}$
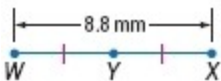
SOLUTION:

Segments that have the same measure are called congruent segments.
Here, $WY = YX$. Let $WY = YX = x$.

$WX = WY + YX$	Betweenness of points
$8.8 = x + x$	Substitution
$8.8 = 2x$	Simplify.
$\frac{8.8}{2} = \frac{2x}{2}$	Divide each side by 2
$4.4 = x$	Simplify.

Therefore, $WY = 4.4$ mm.

19. $\overline{FG}$
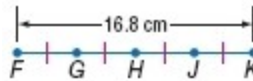
SOLUTION:

Segments that have the same measure are called congruent segments.
Here, $\overline{FG} \cong \overline{GH} \cong \overline{HJ} \cong \overline{JK}$.
So, $FG = GH = HJ = JK$. Let each of the lengths be x.

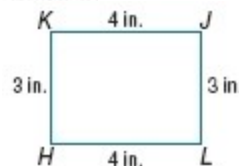|	
$FK = FG + GH + HJ + JK$	Betweenness of points
$16.8 = x + x + x + x$	Substitution.
$16.8 = 4x$	Addition.
$\frac{16.8}{4} = \frac{4x}{4}$	Divide each side by 4.
$4.2 = x$	Simplify.

Therefore, $FG = 4.2$ cm.

Determine whether each pair of segments is congruent.

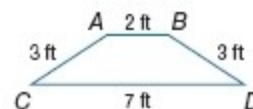27. $\overline{KJ}, \overline{HL}$

SOLUTION:

Segments that have the same measure are called congruent segments.
Here, $KJ = HL = 4$ in.
Therefore, $\overline{KJ} \cong \overline{HL}$.
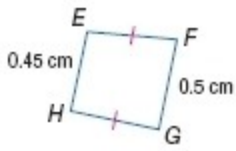
28. $\overline{AC}, \overline{BD}$

SOLUTION:

Segments that have the same measure are called congruent segments.
Here, $AC = BD = 3$ ft.
Therefore, $\overline{AC} \cong \overline{BD}$.
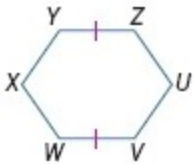
29. $\overline{EH}, \overline{FG}$

SOLUTION:
Segments that have the same measure are called congruent segments.
Here, $EH = 0.45$ cm and $FG = 0.5$ cm. So, $EH \neq FG$. Therefore, $\overline{EH}$ and $\overline{FG}$ are not congruent.
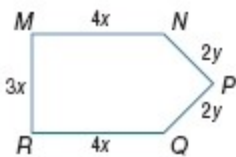
30. $\overline{VW}, \overline{UZ}$

SOLUTION:
Segments that have the same measure are called congruent segments.
Here, the lengths of the segments *ZY* and *VW* are given to be equal. But the length of *UZ* is not known. So, the congruency cannot be determined from the information given.
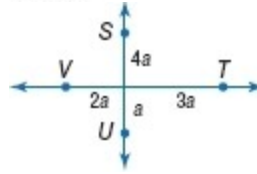
31. $\overline{MN}, \overline{RQ}$

SOLUTION:
Segments that have the same measure are called congruent segments.
Here, $MN = RQ = 4x$.
All segments must have a measure greater than 0.
Therefore, for all $x > 0$, $\overline{MN} \cong \overline{RQ}$.

32. $\overline{SU}, \overline{VT}$

SOLUTION:
Segments that have the same measure are called congruent segments.
Here, $SU = 4a + a = 5a$ and $RQ = 2a + 3a = 5a$.
All segments must have a length greater than 0.
Therefore, for all $a > 0$, $\overline{SU} \cong \overline{VT}$.