



Segment Bisectors

\overline{XY} bisects \overline{RV} @ Point D

Addition Segment Postulate

$$\overline{RD} + \overline{DV} = \overline{RV}$$



- $m \overline{ST} = 8$
- $m \overline{SP} = x + 4$
- $m \overline{PT} = x$

$$\overline{SP} + \overline{PT} = \overline{ST}$$

$$x + 4 + x = 8$$

$$2x + 4 = 8$$

$$\begin{array}{r} -4 \quad -4 \\ \hline 2x = 4 \\ \hline x = 2 \end{array}$$

$$x = 2$$

$$x + 4 + x = 8$$

$$2 + 4 + 2 = 8$$

$x = 2$ yes ✓

Add. Post. seg.
Subst.
CLT
Subst. prop.
∴ prop

check



\overline{RS} bisects \overline{XZ} @ Point Y

$$\begin{array}{l} m \overline{XY} = 3x + 1 \\ m \overline{YZ} = 20 \end{array}$$

\overline{XY} and \overline{YZ} same

$$\overline{XY} = \overline{YZ}$$

$$\overline{XY} + \overline{YZ} = \overline{XZ}$$

$$\overline{XY} + \overline{YZ} = \overline{XZ}$$

$$3x + 1 + 3x + 1 = 20$$

$$6x + 2 = 20$$

$$6x = 18$$

$$x = 3$$

$$3x + 1 + 3x + 1 = 20$$

$$3(3) + 1 + 3(3) + 1 = 20$$

$$9 + 1 + 9 + 1 = 20$$

$$10 + 10 = 20$$

Add. Post. seg.
Subst.
Subst.
Subst. prop.
Div. prop.
check

yes ✓