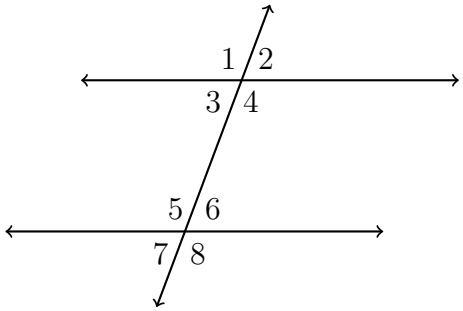
4.7 Do Now: Parallelograms & polygons

1. Given two parallel lines and a transversal, as shown.

   (a) Given $m\angle 7 = 65°$. Find $m\angle 2$.

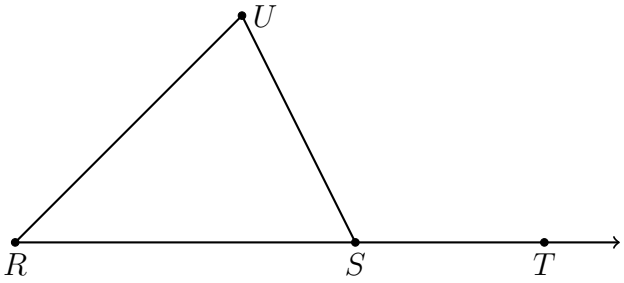


   (b) State the angle corresponding with $\angle 2$.

   (c) Given $m\angle 8 = 115°$ and $m\angle 4 = 5x°$. Find x.

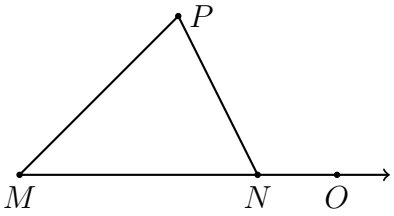
   (d) What term relates the position of $\angle 4$ to $\angle 5$? _____

2. Given $m\angle R = 40$ and $m\angle USR = x + 15$, and $m\angle U = x + 5$. Find x.



3. What is the sum of the measures of the internal angles of a pentagon?

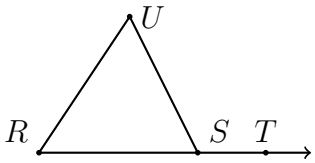
4. Given $m\angle M = 48$ and $m\angle PNO = 110$. Find $m\angle P$.



Circle the appropriate equation and state the justification

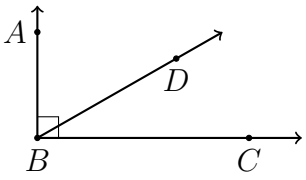
Use the postulates and theorems you have learned. You may abbreviate them as follows: "def. of bisector," "$\perp$ rays meet at 90°," "complementary $\angle$s add to 90," "linear pairs add to 180," "vertical $\angle$s are $\cong$," "corresponding $\angle$s of $\parallel$ lines are $\cong$."

5. Given $m\angle R = m\angle U = 65$, and $m\angle UST = 130$. Find $m\angle RSU$.



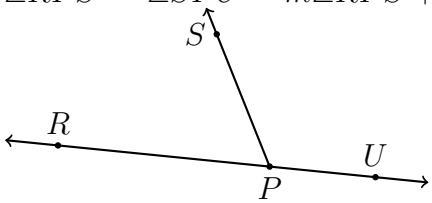
$\angle UST \cong \angle RSU$ $\quad m\angle UST + m\angle RSU = 180$ _____

6. Given $\overrightarrow{BA} \perp \overrightarrow{BC}$, $m\angle ABD = 2x - 5$, and $m\angle DBC = x - 10$.

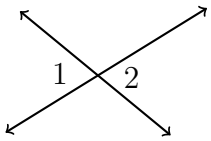


$\angle ABD \cong \angle DBC$ $\quad m\angle ABD + m\angle DBC = 90$ _____

7. $\angle RPS \cong \angle SPU$ $\quad m\angle RPS + m\angle SPU = 180°$ _____



8. Given $m\angle 1 = 4x + 6$, $m\angle 2 = 6x - 32$. Find $m\angle 1$.



$\angle 1 \cong \angle 2$ $\quad m\angle 1 + m\angle 2 = 180$ _____

9. Given $\overrightarrow{BA} \perp \overrightarrow{BC}$, $m\angle ABD = 4x$, and $m\angle DBC = 2x - 12$. Find $m\angle DBC$.

   For full credit, show the check using both angle measures.