BECA / Dr. Huson / Geometry 10th Grade
Unit 2: Introduction to Proof Name: .
5 November 2018

Do Now: Formulating geometric situations

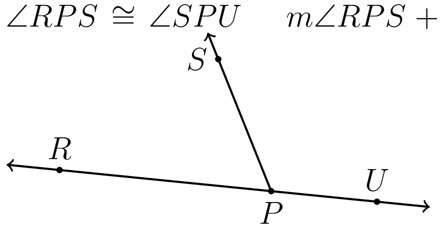
Use the postulates and theorems you have learned. You may abbreviate them as follows: "def. of bisector," "$\perp$ rays meet at 90°," "complementary $\angle$s add to 90," "linear pairs add to 180," "vertical $\angle$s are $\cong$,"

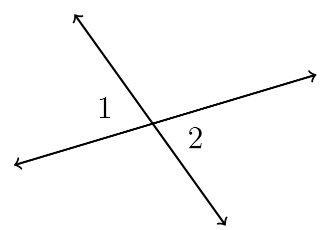
Circle the appropriate equation and state the justification

1. Given complementary angles, $\angle A$, $\angle B$.

   $\angle A \cong \angle B$ $m\angle A + m\angle B = 90°$ ____________________

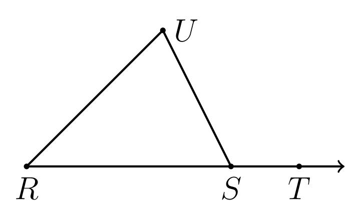
2. $\angle RPS \cong \angle SPU$ $m\angle RPS + m\angle SPU = 180°$ ____________________





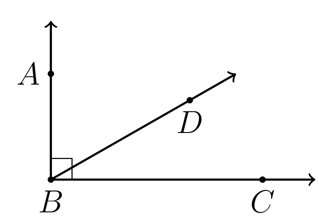
3. Given $m\angle 1 = 4x + 6$, $m\angle 2 = 6x - 32$. Find $m\angle 1$.

   $\angle 1 \cong \angle 2$ $m\angle 1 + m\angle 2 = 180$ ____________________



4. Given $m\angle R = 50$, $m\angle U = 65$, and $m\angle UST = 115$. Find $m\angle RSU$.

   $\angle UST \cong \angle RSU$ $m\angle UST + m\angle RSU = 180$ ____________________



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

   $\angle ABD \cong \angle DBC$ $m\angle ABD + m\angle DBC = 90$ ____________________

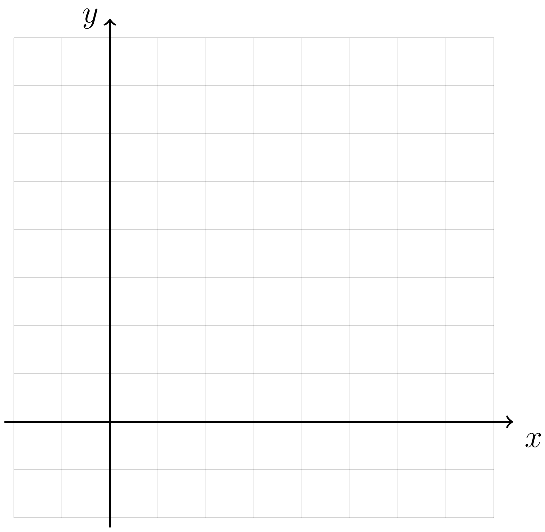
6. Prove the quadrilateral $BECA$ with $B(1,3)$, $E(3,2)$, $C(5,6)$, and $A(3,7)$ is a rectangle, using the theorem "If a quadrilateral's diagonals are congruent, then it is a rectangle."

   (a) Plot and label the points on the graph. Draw $BECA$.

   (b) Draw the diagonals, $\overline{BC}$ and $\overline{EA}$.

   (c) Find the length of EA, showing the subtraction of the y values.

   (d) Find BC using the distance formula.



7. Given the circle C with circumference 6π.

   (a) Write down the formula for the circumference of a circle.

   (b) Solve for the radius yielding a circumference of 6π.

   (c) Find the area of the circle.