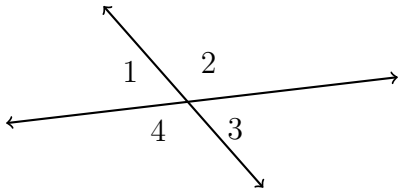
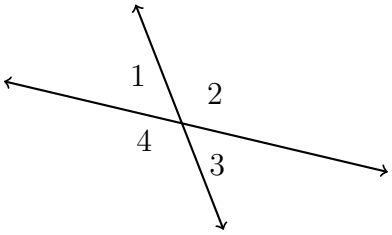
3-5DN-Angle-modeling

Do Not Solve!
Model the situation with an equation. Circle where it states what to find.

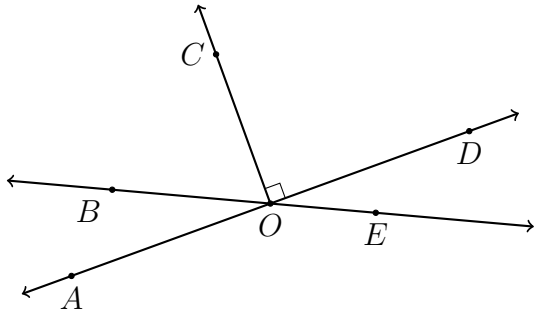
1. Two lines intersect making four angles: $\angle 1$, $\angle 2$, $\angle 3$, and $\angle 4$. Given that $m\angle 1 = 4x+5$ and $m\angle 4 = 6x + 15$, find x.



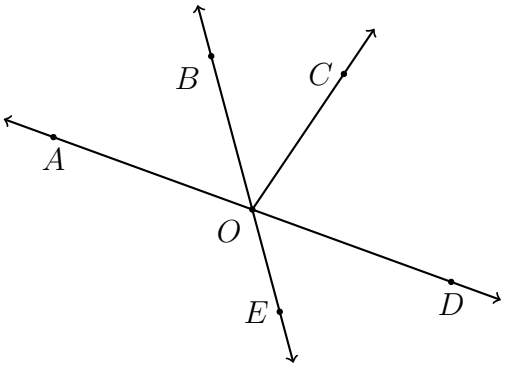
2. Given that $m\angle 2 = 5x + 8$ and $m\angle 4 = 7x - 6$ as shown in the diagram, find $m\angle 2$.



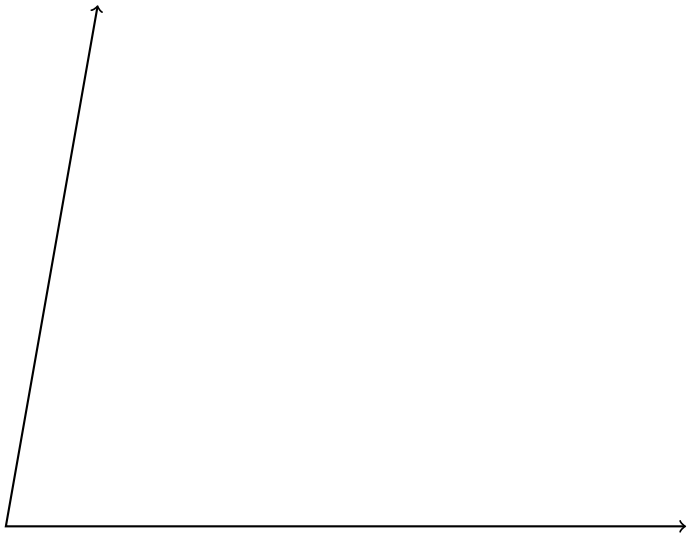
3. In the diagram below $m\angle AOB = 2x + 5$ and $m\angle COB = 5x + 15$. Find x.



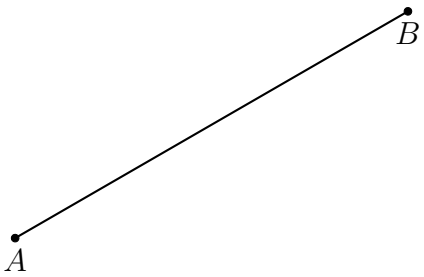
4. In the diagram below $m\angle AOB = 3x+5$, $m\angle BOC = 2x-10$, and $m\angle DOC = x+65°$. Find $m\angle AOB$.



5. Complete the construction of the bisector of the given angle.



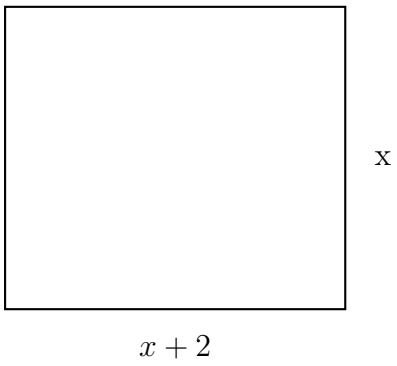
6. Construction the bisector of the given line segment.



Early finishers: Spicy

7. The length of the given rectangle is 2 more than the width. Its area is 99. Find the length and width of the rectangle using an algebraic method.

   (the drawing is not to scale)



8. The circle with center B is shown below with diameter $\overline{AC}$ and radius $\overline{BD}$. Given $BC = 8x - 3$ and $BD = 5x + 9$. Find the radius of the circle.