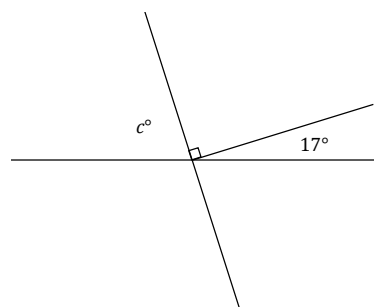


**Lesson Summary**

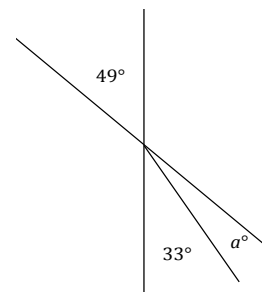
- To solve an unknown angle problem, identify the angle relationship(s) first to set up an equation that will yield the unknown value.
- Angles on a line and supplementary angles are not the same relationship. *Supplementary* angles are two angles whose angle measures sum to  $180^\circ$  whereas *angles on a line* are two or more adjacent angles whose angle measures sum to  $180^\circ$ .

**Problem Set**

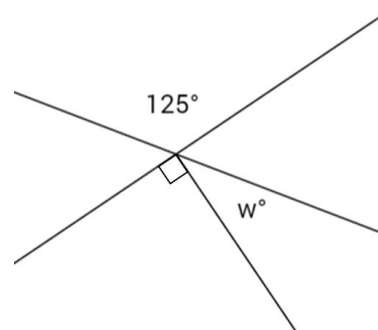
1. Two lines meet at a point that is also the endpoint of a ray. Set up and solve an equation to find the value of  $c$ .



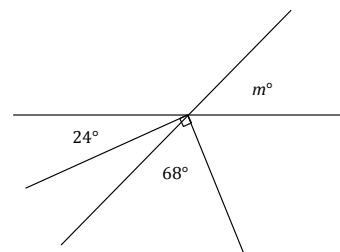
2. Two lines meet at a point that is also the endpoint of a ray. Set up and solve an equation to find the value of  $a$ . Explain why your answer is reasonable.



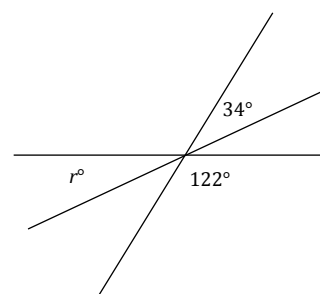
3. Two lines meet at a point that is also the endpoint of a ray. Set up and solve an equation to find the value of  $w$ .



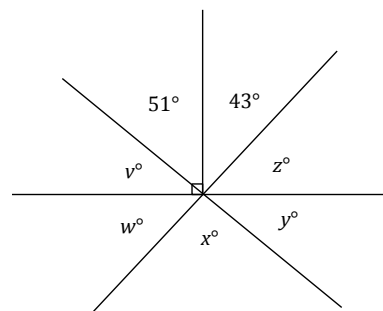
4. Two lines meet at a point that is also the vertex of an angle. Set up and solve an equation to find the value of  $m$ .



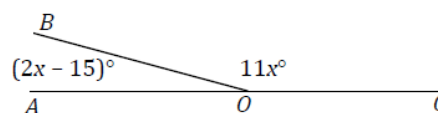
5. Three lines meet at a point. Set up and solve an equation to find the value of  $r$ .



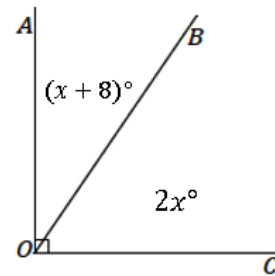
6. Three lines meet at a point that is also the endpoint of a ray. Set up and solve an equation to find the value of each variable in the diagram.



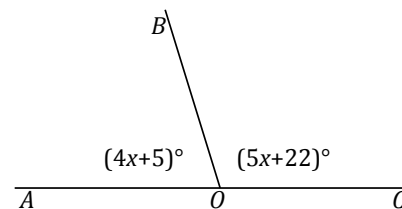
7. Set up and solve an equation to find the value of  $x$ . Find the measurement of  $\angle AOB$  and of  $\angle BOC$ .



8. Set up and solve an equation to find the value of  $x$ . Find the measurement of  $\angle AOB$  and of  $\angle BOC$ .



9. Set up and solve an equation to find the value of  $x$ . Find the measurement of  $\angle AOB$  and of  $\angle BOC$ .



10. Write a verbal problem that models the following diagram. Then, solve for the two angles.

