**2.7 Test: Extension topics**
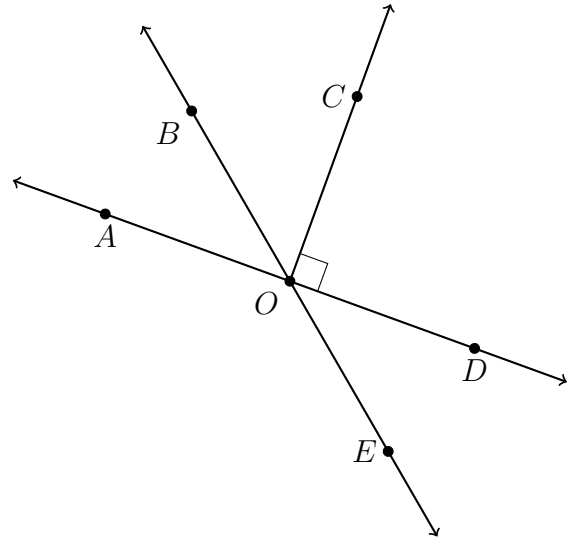
*Diagrams are not necessarily drawn to scale unless otherwise stated.*

1. In the diagram below $\angle BOC = 7x - 50$ and $\angle DOE = 4x - 3$. Find $m\angle AOB$.



2. In the line segment $\overline{ABC}$, $\overline{AB}$ is twice as long as $\overline{BC}$. $AB = 12x - 6$ and $AC = 15x + 9$. Find $BC$.

3. In the diagram below $\angle AOB = x - 7$ and $\angle COD = \dfrac{3}{4}(x + 57)$. Find $\angle BOC$