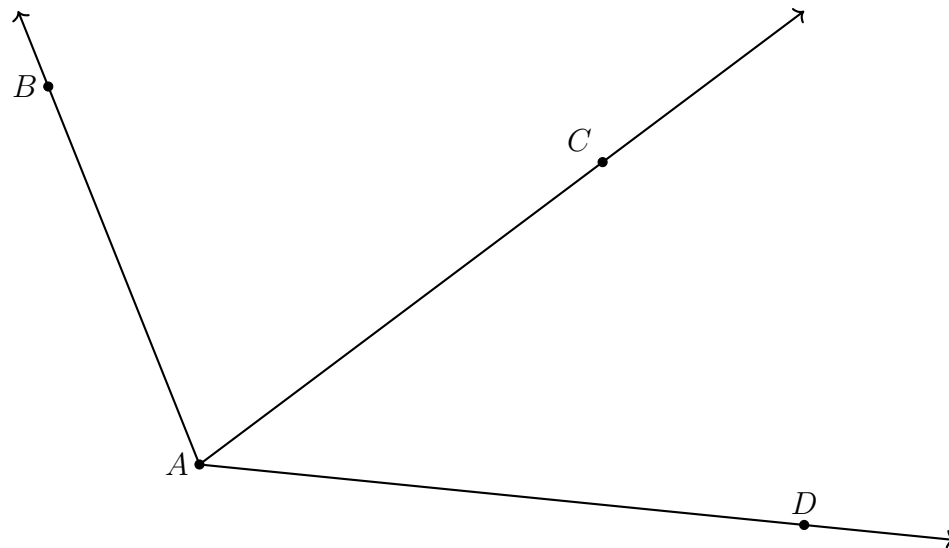


Name: _____

2.2 Classwork: Angle addition

1. Write down the name of the *three* angles shown in the diagram below and their angle measures, using your protractor.



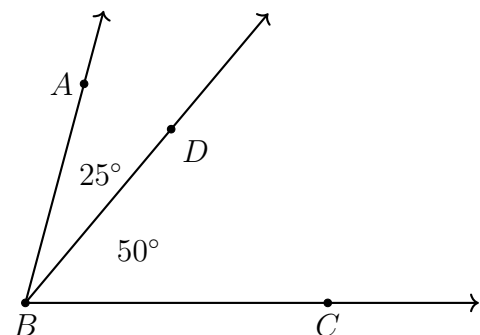
(a) _____

(b) _____

(c) _____

(d) What do you notice about the angle measures?

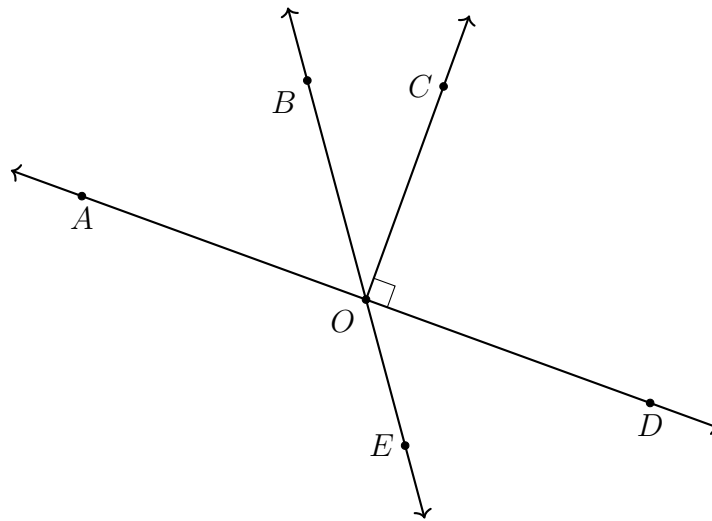
2. $m\angle ABD = 25^\circ$, $m\angle DBC = 50^\circ$. Find $m\angle ABC$.



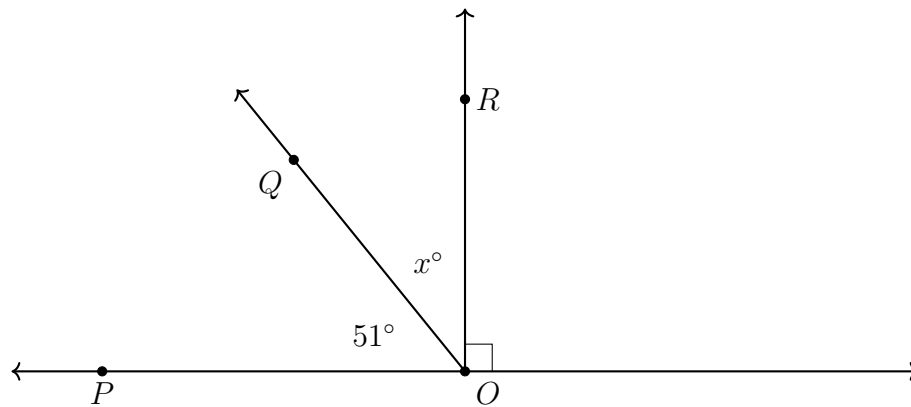
3. Answer based on the diagram below.

(a) Name an angle that is supplementary to $\angle AOB$: _____

(b) Name an angle that is complementary to $\angle DOE$: _____



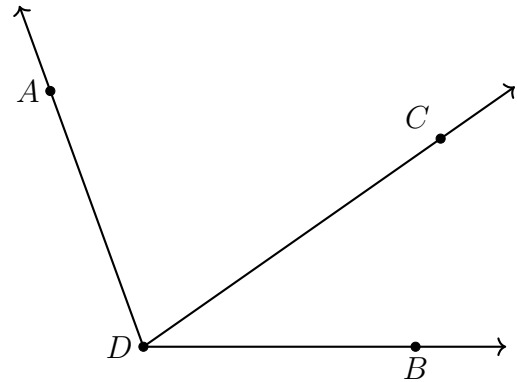
4. $\angle POQ$ and $\angle QOR$ are complementary angles. Given $m\angle POQ = 51^\circ$, find $m\angle QOR$.



Name:

5. Given $m\angle ADB = 110^\circ$, $m\angle ADC = 75^\circ$, and $m\angle BDC = 3x + 5$. Find x .

- (a) Label the diagram.
(b) Write an equation.
(c) Solve for x .

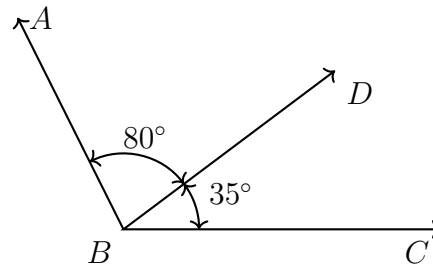


- (d) Check your answer

6. Apply the Angle Addition postulate. Write an equation to support your work.

Given $m\angle ABD = 80^\circ$ and
 $m\angle DBC = 35^\circ$.

Find $m\angle ABC$.

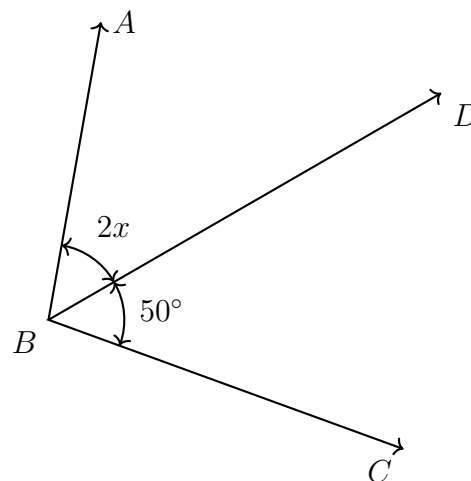


7. Given the angle measures and situation shown, write an equation and solve for x .

$$m\angle ABD = 2x$$

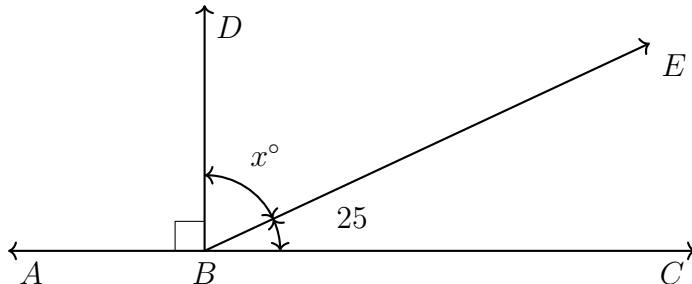
$$m\angle DBC = 50^\circ$$

$$m\angle ABC = 110^\circ$$



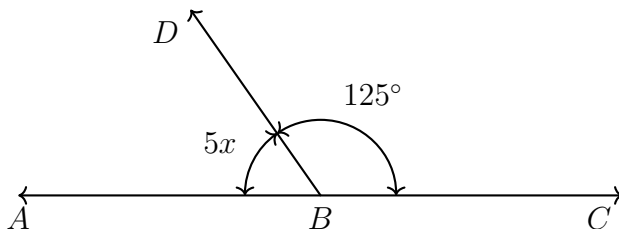
8. The ray \overrightarrow{BD} makes a 90° angle with the line \overleftrightarrow{ABC} , and $m\angle DBE = x^\circ$, $m\angle EBC = 25^\circ$.

Find x . Start by writing an equation to support your work.



9. Two supplementary angles have measures $m\angle ABD = 5x$ and $m\angle DBC = 125^\circ$.

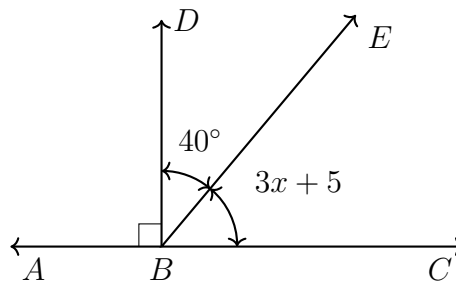
Write an equation, then solve for x .



10. Given the angle measures and perpendicular situation shown, $\overrightarrow{BD} \perp \overleftrightarrow{ABC}$. Find x .

$$m\angle DBE = 40^\circ$$

$$m\angle EBC = 3x + 5^\circ$$



11. A linear pair have measures $m\angle ABD = 7x + 16^\circ$ and $m\angle DBC = 5x + 20^\circ$.

Find $m\angle ABD$.

