

Name: _____

Date: _____

Aim: How can we solve equations using angle pairs?

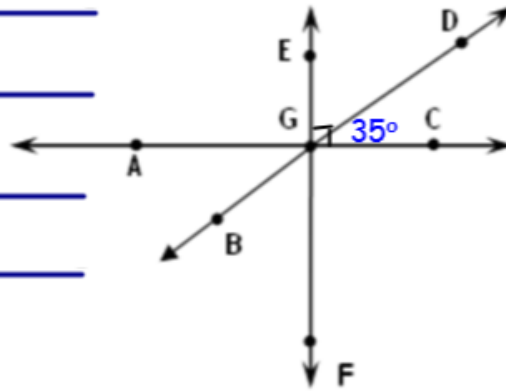
Classify each angle pair as complementary, supplementary or vertical.

$\angle DGC$ and $\angle EGD$ _____

$\angle DGC$ and $\angle AGB$ _____

$\angle AGE$ and $\angle CGF$ _____

$\angle BGA$ and $\angle AGD$ _____



Find the measure of each angle.

$\angle EGD$ _____

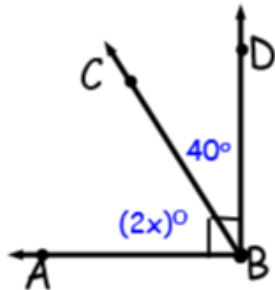
$\angle AGB$ _____

$\angle FGC$ _____

$\angle BGF$ _____

$\angle AGE$ _____

$\angle AGD$ _____



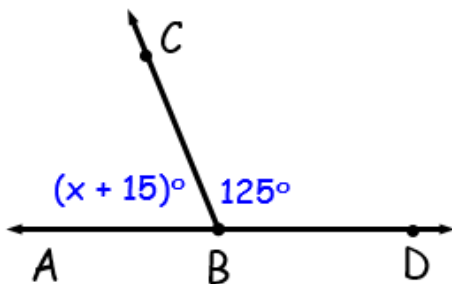
1a. What type of angles are $\angle ABC$ and $\angle CBD$?

complementary angles

1b. What is their sum?

$\angle ABC + \angle CBD = 90^\circ$

1c. Write an equation to find the value of x.

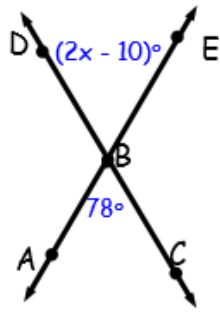


2a. What type of angles are $\angle ABC$ and $\angle CBD$?

supplementary angles

2b. What is their sum?

2c. Write an equation to find the value of x.

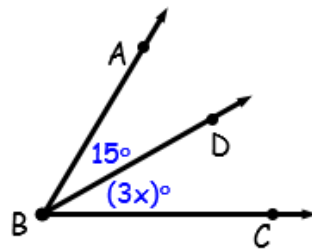


3a. What type of angles are $\angle DBE$ and $\angle ABC$?

Vertical angles - opposite angles are congruent

3b. What is special about these angles?

3c. Write an equation to find the value of x .



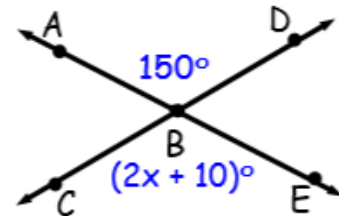
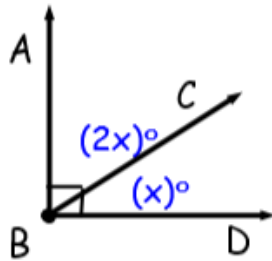
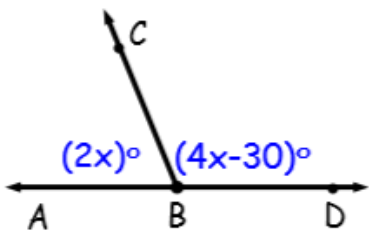
$m\angle ABC = 81^\circ$

4a. Name the special pair of angles.

4b. How can we find the value of x ?

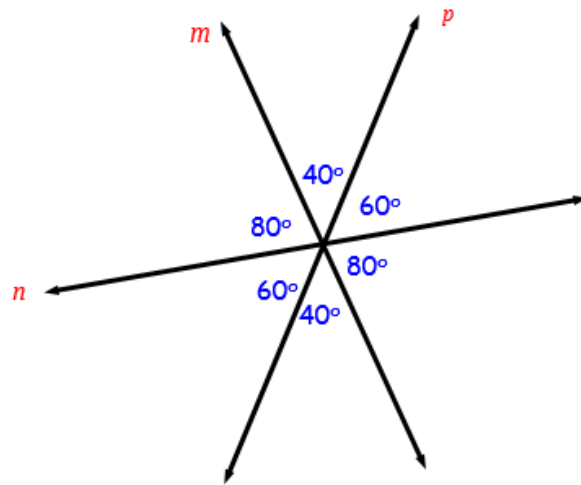
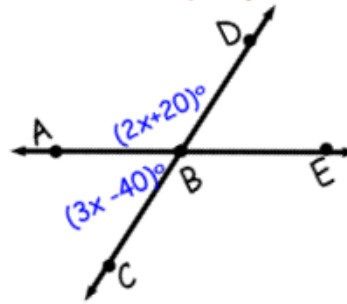
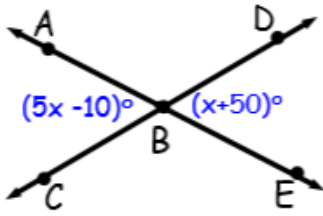
4c. What is the $m\angle DBC$?

Write an equation to find the value of x , then solve.



Challenge

Write an equation to find the value of x , then solve.



You can have more than 2 intersecting lines. Every pair of lines will form 2 pairs of vertical angles. All of the angles will still sum to 360° .