



Math Virtual Learning

Math 7/Pre-Algebra

Complementary and Supplementary Angles

April 16, 2020



Grade 7/Complementary and Supplementary Angles

Lesson: April 16, 2020

Objective/Learning Target:

Students will solve problems involving complementary and supplementary angles.

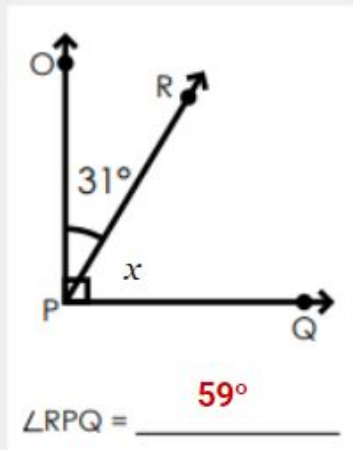
Let's Get Started:

Click on the Link: [Complementary and Supplementary Angles](#)

Warm-Up

Complementary Angles Example

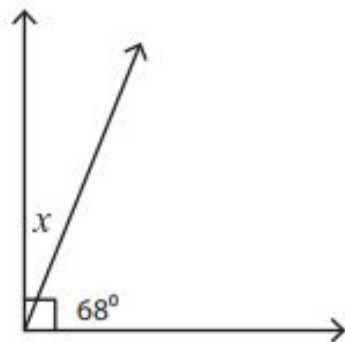
The two angles are complementary.
Find the complement of the given angle.



$$x + 31^\circ = 90^\circ$$

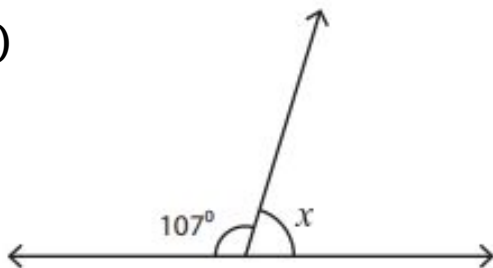
$$\text{OR } 90^\circ - 31^\circ = 59^\circ$$

A.)



$$x = \underline{\hspace{2cm}}$$

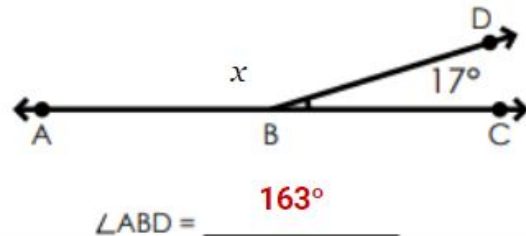
B.)



$$x = \underline{\hspace{2cm}}$$

Supplementary Angles Example

The two angles are supplementary.
Find the supplement of the given angle.



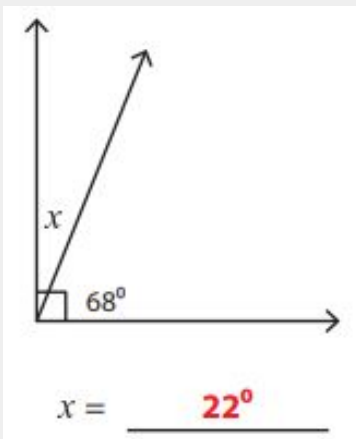
$$x + 17^\circ = 180^\circ$$

$$\text{OR } 180^\circ - 17^\circ = 163^\circ$$

Warm-Up - Answer Key

**Complementary Angles
add up to 90°**

A.)



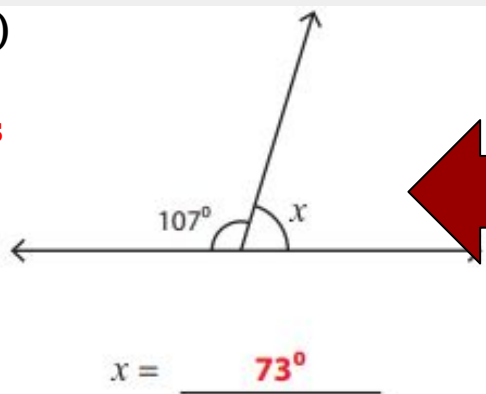
Remember, you can find the value of x by either solving

$$X + 68 = 90^\circ \quad x = 22^\circ$$

or by finding $90 - 68 = 22^\circ$.

**Supplementary Angles
add up to 180°**

B.)



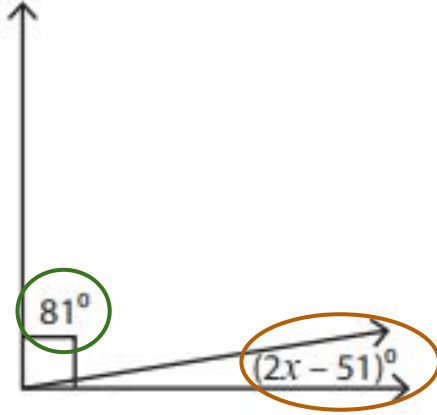
Remember, you can find the value of x by either solving

$$X + 107 = 180^\circ \quad x = 73^\circ$$

or by finding $180 - 107 = 73^\circ$.

Practice

Question a.)



$x =$ _____

Find the value of x .

Steps:

Add the values of the two angles and set that equal to 90.
Then solve the equation.

$$2x - 51 + 81^\circ = 90^\circ$$

$$2x + 30 = 90^\circ$$

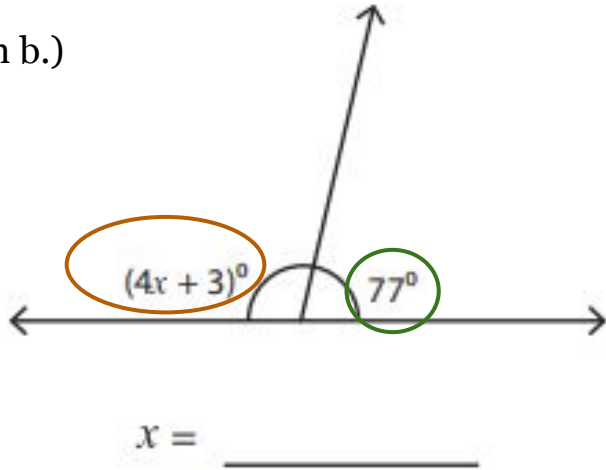
COMBINE LIKE TERMS to get **30**
Now finish solving for x .

NOTE:

This diagram shows
COMPLEMENTARY angles
(angles that add up to 90°).

Practice

Question b.)



Find the value of x .

Steps:

Add the values of the two angles and set that equal to 180.
Then solve the equation.

$$4x + 3 + 77^\circ = 180^\circ$$

$$4x + 80 = 180^\circ$$

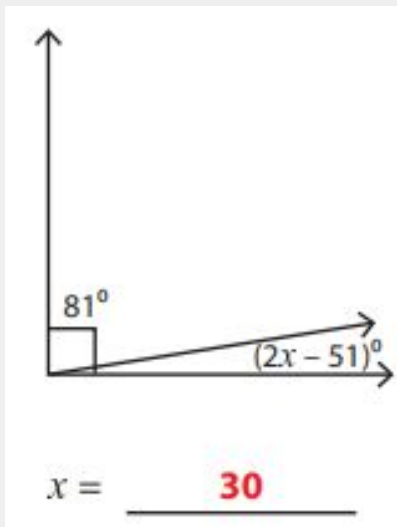
COMBINE LIKE TERMS to get **80**
Now finish solving for x .

NOTE:

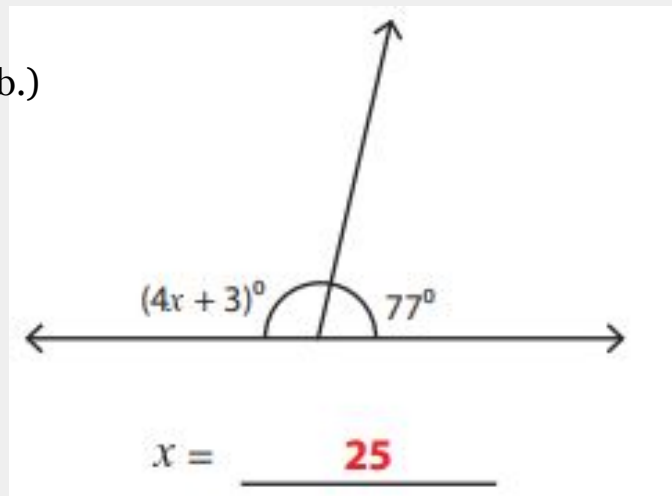
This diagram shows
SUPPLEMENTARY angles
(angles that add up to 180°).

Practice Answers

Question a.)



Question b.)



Additional Practice

- ❑ Click on the link:
[Alien Angles Game - Math Playground](#)
- ❑ Using the slider, your goal is to create the alien angle provided in the bottom left corner.
- ❑ Once you think your angle matches, click on the rocket ship in the bottom right corner. Your goal is to be within 5° of the correct angle.
- ❑ Have fun!

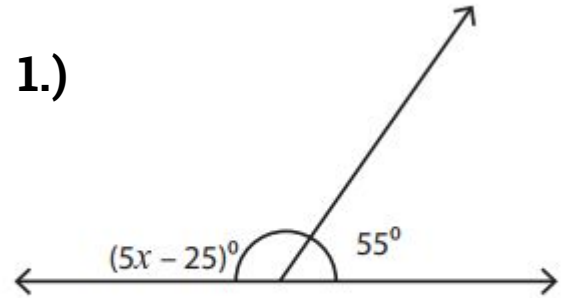


Practice:

Answer the questions on a piece of paper.

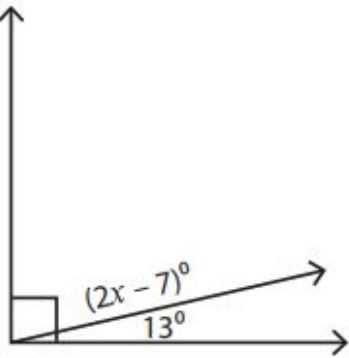
Find the value of x .

1.)



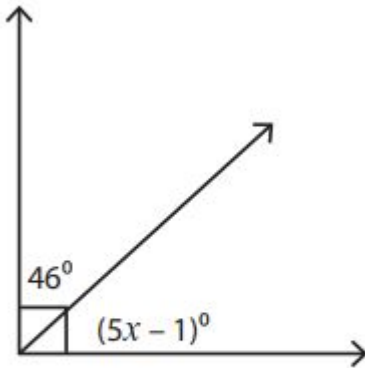
$$x = \underline{\hspace{2cm}}$$

2.)



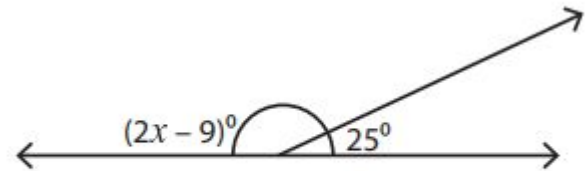
$$x = \underline{\hspace{2cm}}$$

3.)



$$x = \underline{\hspace{2cm}}$$

4.)



$$x = \underline{\hspace{2cm}}$$

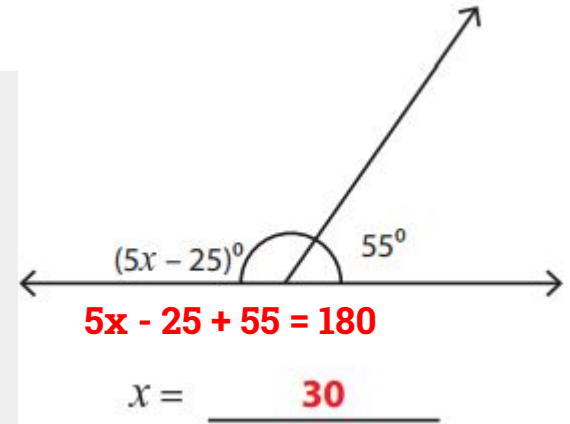
Practice:

Answer the questions on a piece of paper.

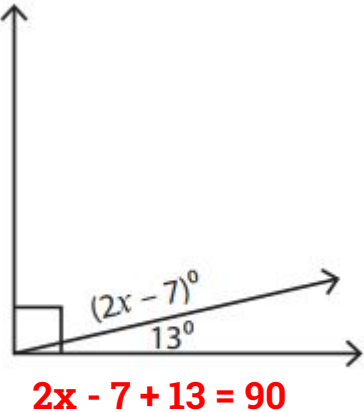
Find the value of x .

1.)

Make sure that you combined like terms when needed, added or subtracted correctly, and knew if the angles added up to 90° or 180° .

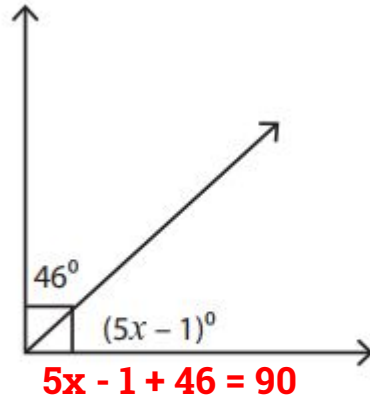


2.)



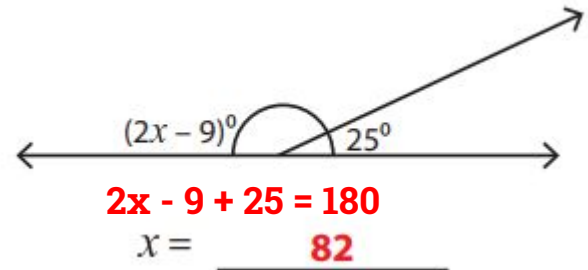
$$x = \underline{\quad 42 \quad}$$

3.)



$$x = \underline{\quad 9 \quad}$$


4.)



Additional Links

- ❑ Click On the Link:

[Math Games Arcade - Complementary and Supplementary Angle Pairs Memory Match - FREE](#)

- ❑ **IF you get a message that says “Adobe Flash Player is BLOCKED”** You will need to “Allow” Flash Player by right clicking on the lock  on the browser bar. See next slide for more details.
- ❑ First select practice mode. You can choose to work on matching complementary, supplementary, or mixed angle pairs.
- ❑ Once in the game, you will match angle pairs. For example, if it asks you to find a pair of complementary angles, you would want to click on 64 and 26 to make 90. Your goal is to match the angles as quick as you can!
- ❑ Then, challenge yourself in the challenge mode!
- ❑ You may want your calculator.

Complementary and Supplementary Angle Pairs Memory Match

XPMath

Example: Complementary Angles

Time

63°

27°

Show Complementary Angles Example

Show Supplementary Angles Example

Autoplay Examples

Start Game

Practice Mode

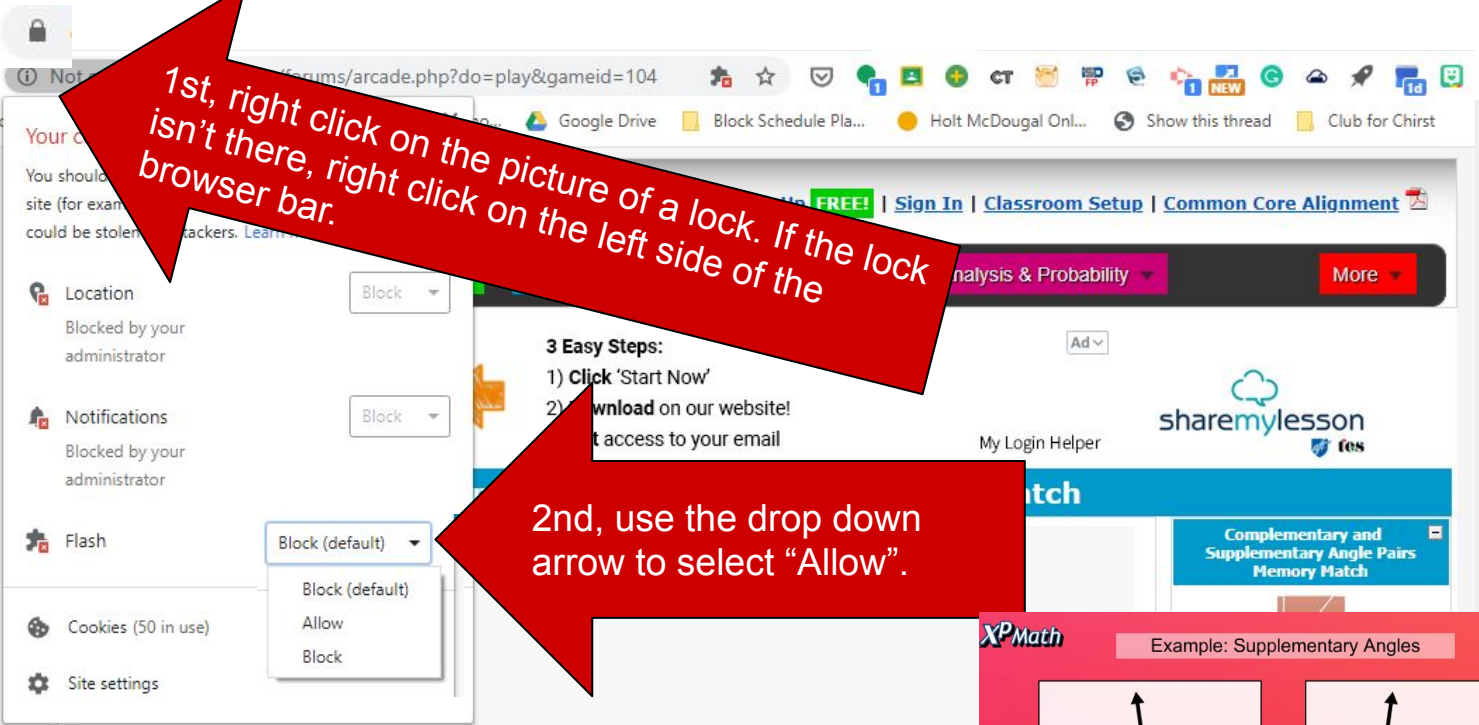
Complementary Angles

Challenge Mode 3x Score

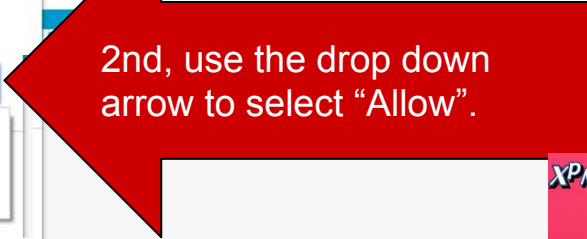
www.xpmath.com

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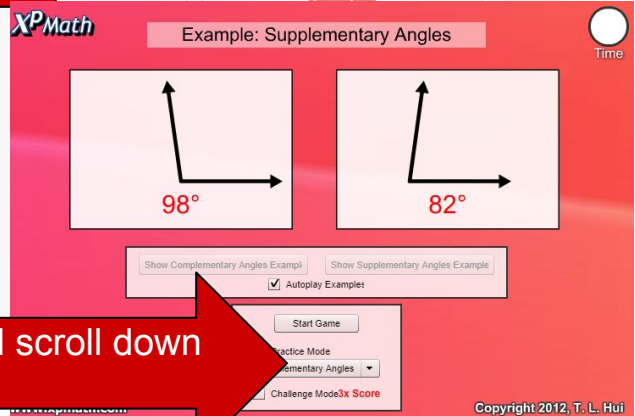


1st, right click on the picture of a lock. If the lock isn't there, right click on the left side of the browser bar.



2nd, use the drop down arrow to select "Allow".

3rd, this screen of the game should appear. You will scroll down to make selections to start your practice.



Additional Links

- ❑ Click On the Link:
[Complementary and Supplementary Angles - Quizizz](#)
- ❑ Choose Play or Flashcards
- ❑ Answer questions on a piece of paper, then select the correct answer.
- ❑ You may want your calculator.

