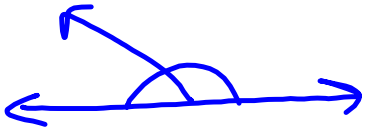
11-1 Complementary and Supplementary Angles

Objectives:

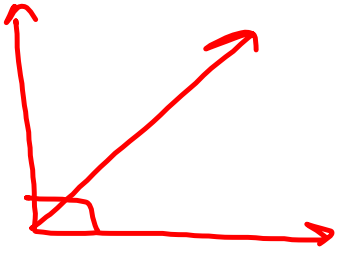
- Students will be able to define angle properties and use them to solve for missing information.

Vocabulary

Supplementary: angles that add to 180°



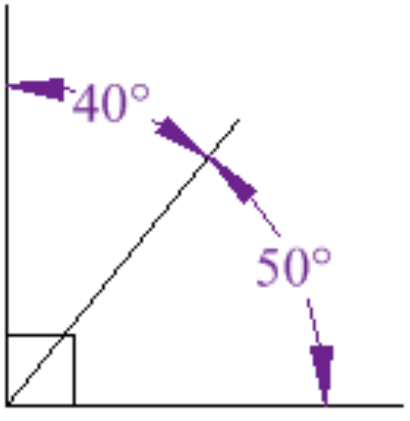
Complementary: angles that add to 90°



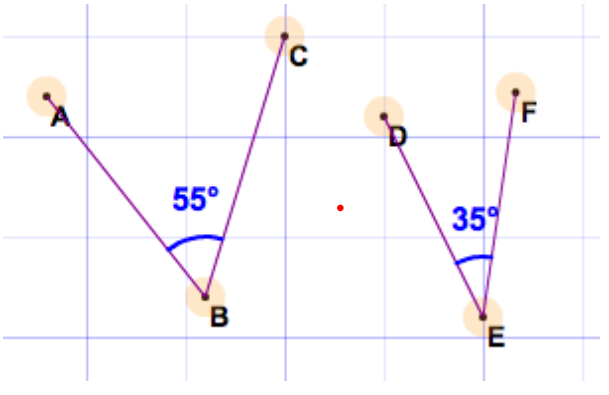
Two Angles are **Complementary** when:

They add up to 90 degrees (a Right Angle).

*They don't have to be next to each other, just so long as the total is 90 degrees.



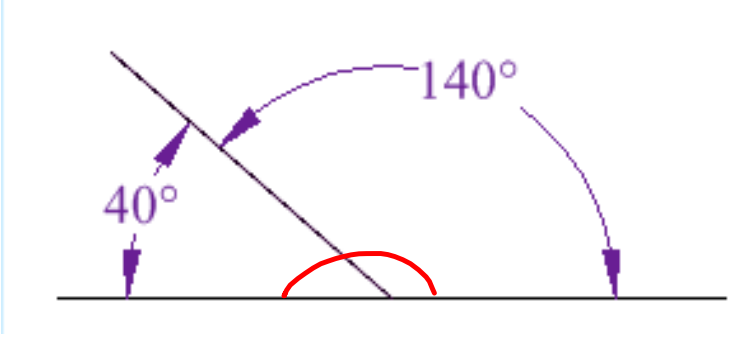
*These are adjacent angles



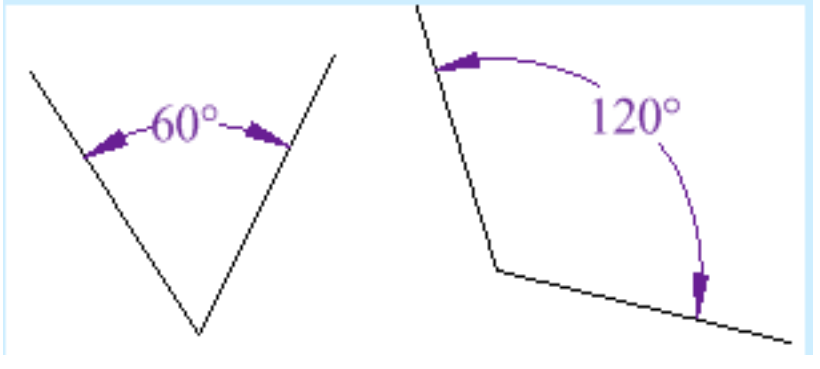
Not adjacent angles

Two Angles are **supplementary** when:

They add up to 180 degrees.



Also called a linear pair because they are supplementary and adjacent.



Not a linear pair

"**C**" of **C**omplementary stands for "**C**orner"

(a Right Angle) 

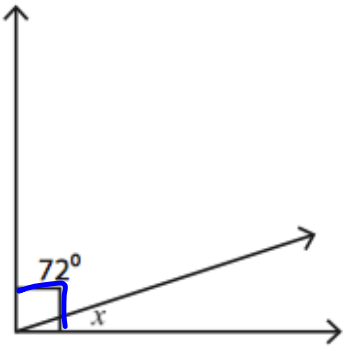
"**S**" of **S**upplementary stands for "**S**traight"

(180 degrees is a straight line)

Angle	Complement
20^0	$70^\circ = 90^\circ$
56^0	$34^\circ = 90^\circ$
72^0	18°
44^0	46°
35^0	55°
87^0	3°

Angle	Supplement
125^0	$55^\circ = 180^\circ$
37^0	143°
111^0	69°
152^0	28°
95^0	85°
64^0	116°

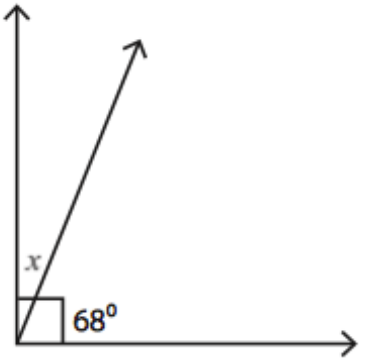
Find the value of x:



$72 + x = 90°$

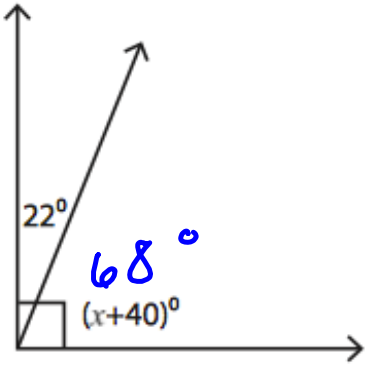
$-72 \quad -72$

$x = 18°$



$68 + x = 90$

$22°$

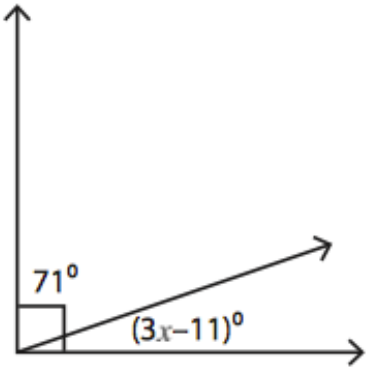


$22 + x + 40 = 90$

$x + 62 = 90$

$-62 \quad 62$

$x = 28$



$71 + 3x - 11 = 90$

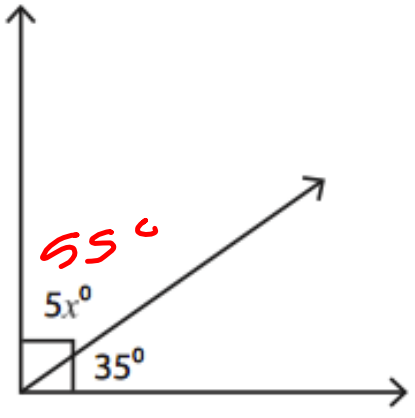
$3x + 60 = 90$

$-60 \quad -60$

$\frac{3x}{3} = \frac{30}{3}$

$x = 10$

Find the value of x:

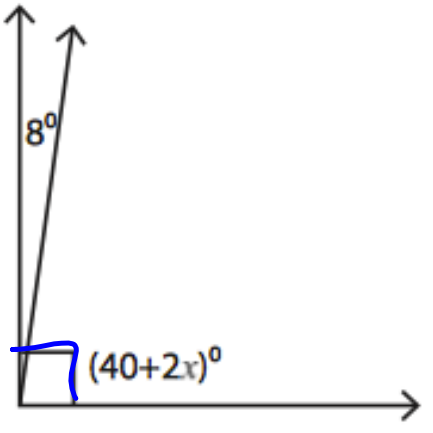


$5x + 35 = 90$

$-35 \quad -35$

$5x = 55$

$x = 11$



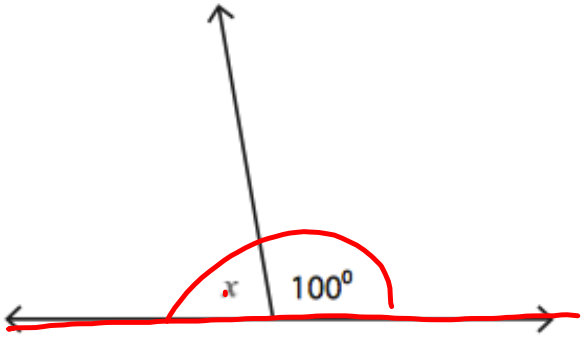
$8 + 40 + 2x = 90$

$48 + 2x = 90$

$\frac{2x}{2} = \frac{42}{2}$

$x = 21$

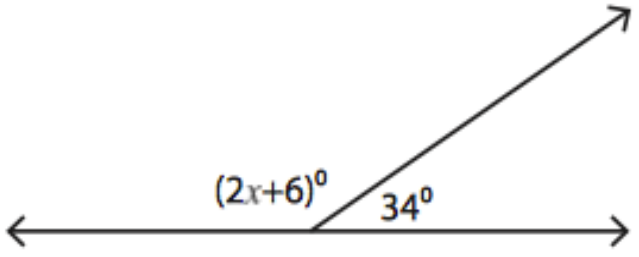
Find the value of x:



$x + 100 = 180°$

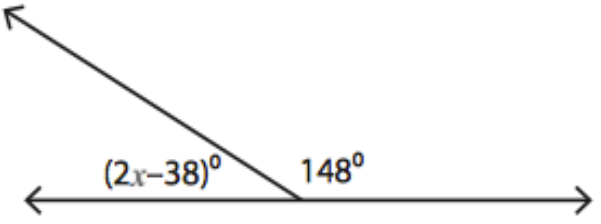
$-100 \quad -100$

$x = 80°$



$2x + 6 + 34 = 180$

Find the value of x:



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