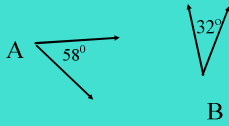


Ch 2.3 Complementary & Supplementary Angles

Complementary angles - sum of the 2 angles is 90°

Each angle is the **complement** of the other.

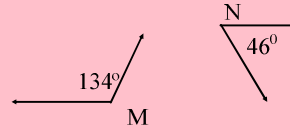


$\angle A$ and $\angle B$ are complementary angles:
 $58 + 32 = 90$

Sep 22-12:20 PM

Supplementary angles - sum of the 2 angles is 180°

Each angle is the **supplement** of each other.



$\angle M$ and $\angle N$ are supplementary angles:
 $134 + 46 = 180$

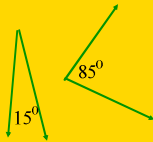
Sep 22-12:23 PM

Ex1) Determine Complements and Supplements:

a)



b)



c)



Sep 22-12:29 PM



Sep 22-12:34 PM

1 p. 67 #1. Determine whether the angles are complements, supplements, or neither.

- A complements
- B supplements
- C neither

Sep 22-12:32 PM

2 p.67 #2.

- A complements
- B supplements
- C neither

Sep 22-12:34 PM

3 p.67 #3.

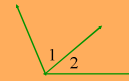
- A complements
- B supplements
- C neither

Start

Sep 22-12:34 PM

Adjacent angles -

Two angles that share a common vertex and side, but do not overlap are adjacent angles.



Determine if they 2 angles are adjacent:

Ex2a)



b)



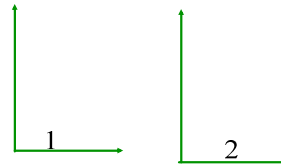
c)



Sep 22-12:47 PM

1 Are they adjacent?

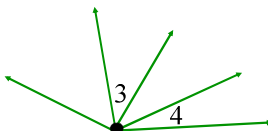
- Yes
- No



Sep 23-12:25 PM

2 #2 Are they adjacent?

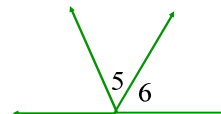
- Yes
- No



Sep 23-12:26 PM

3 #3 . Are they adjacent?

- Yes
- No



Sep 23-12:26 PM

Ex3) Find the complement or supplement for the given angle:

a) $\angle A$ is a complement with $\angle C$, and $m\angle A = 47^\circ$, find the $m\angle C$.

b) $\angle P$ is a supplement of $\angle R$ with $m\angle P = 36^\circ$, find the $m\angle R$.

Sep 22-12:53 PM

1 $\angle B$ is a complement of $\angle D$.
If $m\angle D = 79$, then find $m\angle B$.

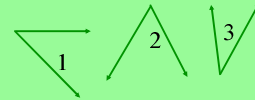
Sep 22-12:55 PM

2 $\angle G$ is a supplement of $\angle H$,
and the $m\angle H$ is 115, find $m\angle G$.

Sep 22-12:56 PM

Theorem - is a true statement that follows from other true statements.

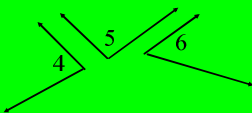
2.1 **Congruent Complements Theorem**: if 2 angles are complements to the same angle, then they are congruent.



If $m\angle 2 + m\angle 3 = 90$ and $m\angle 1 + m\angle 2 = 90$,
then $\angle 1 \cong \angle 2$

Sep 22-12:57 PM

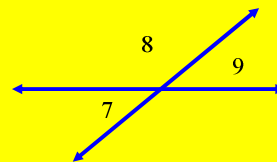
2.2 **Congruent Supplements Theorem**:
If 2 angles are supplementary to the same angle, then they are congruent.



If $m\angle 4 + m\angle 5 = 180$ and $m\angle 5 + m\angle 6 = 180$,
then $\angle 4 \cong \angle 6$.

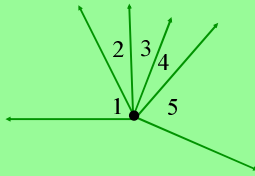
Sep 22-3:31 PM

Ex4a) Name a pair of congruent angles:



Sep 23-12:19 PM

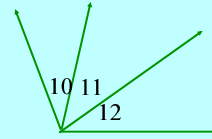
Ex4b) Name the pair of congruent angles:



$\angle 1$ and $\angle 3$ are complementary
 $\angle 3$ and $\angle 5$ are complementary

Sep 23-12:21 PM

Try: Which ones are congruent?



$m\angle 10 + m\angle 11 = 90^\circ$ and
 $m\angle 11 + m\angle 12 = 90^\circ$

Sep 23-12:23 PM