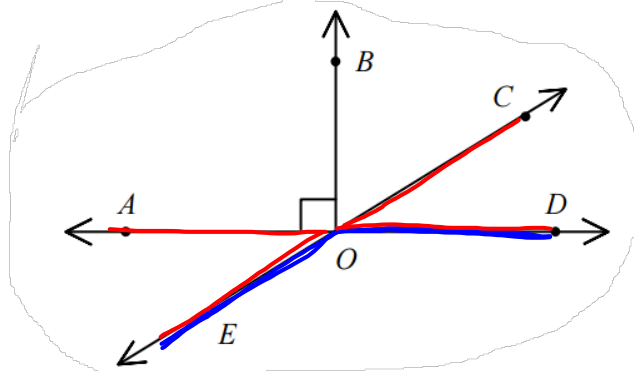


DO NOW Given \overleftrightarrow{AOD} and \overleftrightarrow{EOC}



1) Name an angle complementary to $\angle BOC$.

$\angle DOC$ or $\angle AOE$

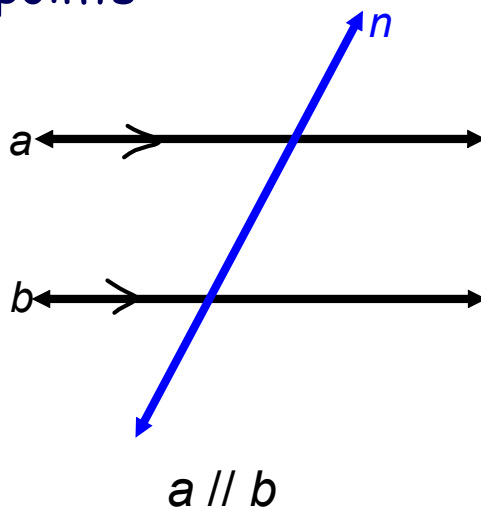
2) Name an angle supplementary to $\angle DOE$.

$\angle EOA$ or $\angle COD$

Sep 15-6:46 AM

Transversal:

A line that intersects two or more lines at different points



$a \parallel b$

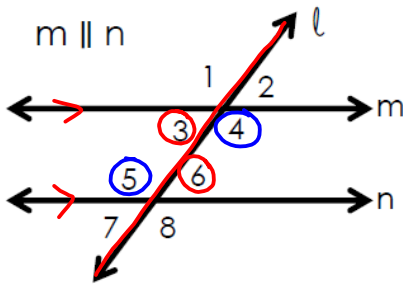
"line a is parallel to line b "

Sep 30-10:48 AM

Alternate Interior Angles Theorem

If two parallel lines are cut by a transversal, then the pairs of alternate interior angles (angles that lie between the two lines and on opposite sides of the transversal) are congruent.

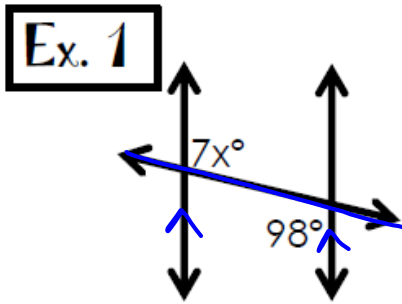
Alternate Interior Angles Theorem



$\angle 3$ and $\angle 6$
 $\angle 3 \cong \angle 6$

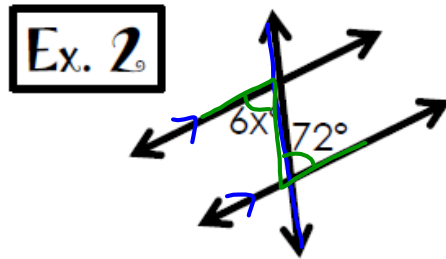
$\angle 4$ and $\angle 5$
 $\angle 4 \cong \angle 5$

Sep 15-1:05 PM



$$\frac{7x}{7} = \frac{98}{7}$$

$x = 14$



$$\frac{6x}{6} = \frac{72}{6}$$

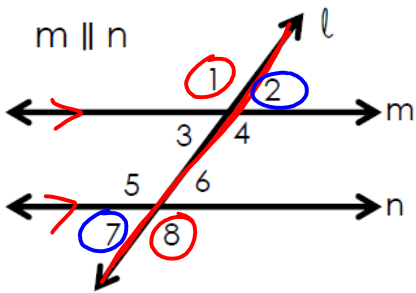
$x = 12$

Sep 15-1:06 PM

Alternate Exterior Angles Theorem

If two parallel lines are cut by a transversal, then the pairs of alternate exterior angles (angles that lie outside the two lines and on opposite sides of the transversal) are congruent.

Alternate Exterior Angles Theorem

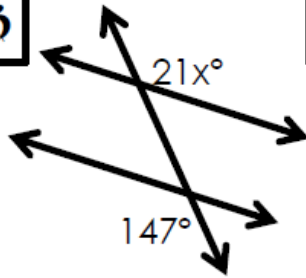


$\angle 1$ and $\angle 8$
 $\angle 1 \cong \angle 8$

$\angle 2$ and $\angle 7$
 $\angle 2 \cong \angle 7$

Sep 15-1:06 PM

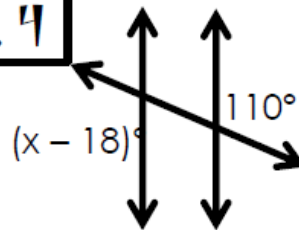
Ex. 3



$21x = 147$

$x = 7$

Ex. 4



$x - 18 = 110$

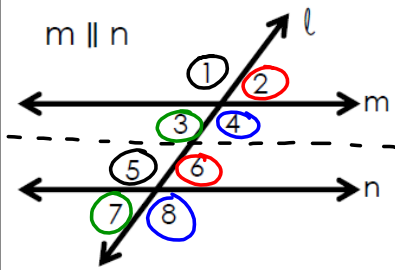
$x = 128$

Sep 15-1:06 PM

Corresponding Angles Postulate

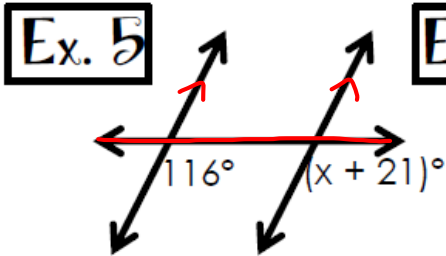
If two parallel lines are cut by a transversal, then the pairs of corresponding angles (angles that have corresponding positions) are congruent.

Corresponding Angles Postulate



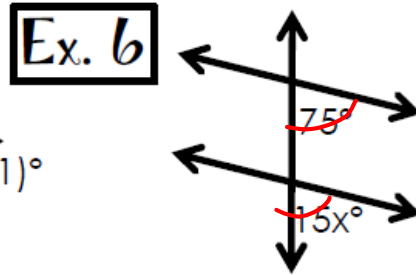
- $\angle 1$ and $\angle 5$
- $\angle 1 \cong \angle 5$
- $\angle 2$ and $\angle 6$
- $\angle 2 \cong \angle 6$
- $\angle 3$ and $\angle 7$
- $\angle 3 \cong \angle 7$
- $\angle 4$ and $\angle 8$
- $\angle 4 \cong \angle 8$

Sep 15-1:07 PM



$$x + 21 = 116$$

$$\boxed{x = 95}$$



$$\frac{75}{15} = \frac{15x}{15}$$

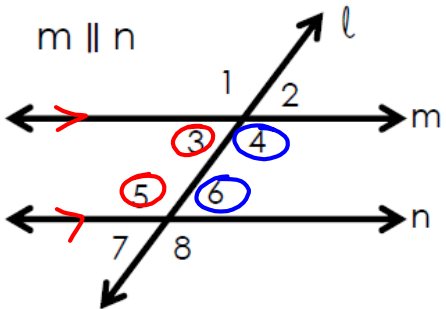
$$\boxed{5 = x}$$

Sep 15-1:07 PM

Consecutive Interior Angles Theorem

If two parallel lines are cut by a transversal, then the pairs of consecutive interior angles (**angles that lie between the two lines and are on the same side of the transversal**) are supplementary.

Consecutive Interior Angles Theorem

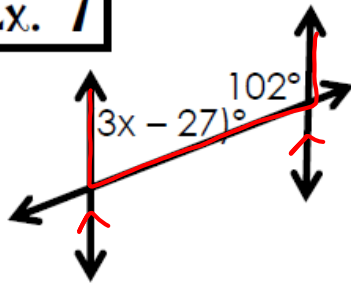


$\angle 3$ and $\angle 5$
 $\angle 3 + \angle 5 = 180$

$\angle 4$ and $\angle 6$
 $\angle 4 + \angle 6 = 180$

Sep 15-1:07 PM

Ex. 7



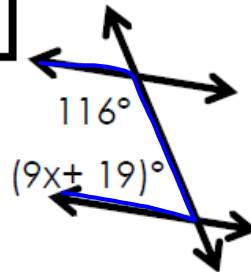
$$3x - 27 + 102 = 180$$

$$3x + 75 = 180$$

$$3x = 105$$

$$x = 35$$

Ex. 8



$$116 + 9x + 19 = 180$$

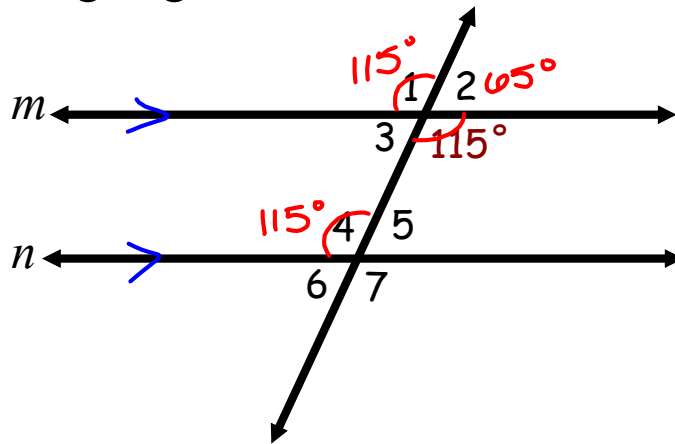
$$9x + 135 = 180$$

$$9x = 45$$

$$x = 5$$

Sep 15-1:07 PM

In the given diagram, $m \parallel n$. Find the value of all the missing angles.



Sep 30-11:00 AM