

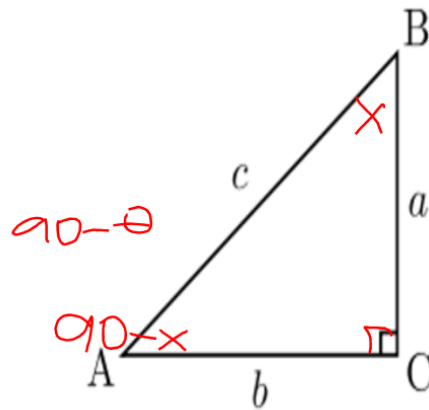
If the $m\angle B$ is x , what is the $m\angle A$?

A. $2x$

B. $90-x$

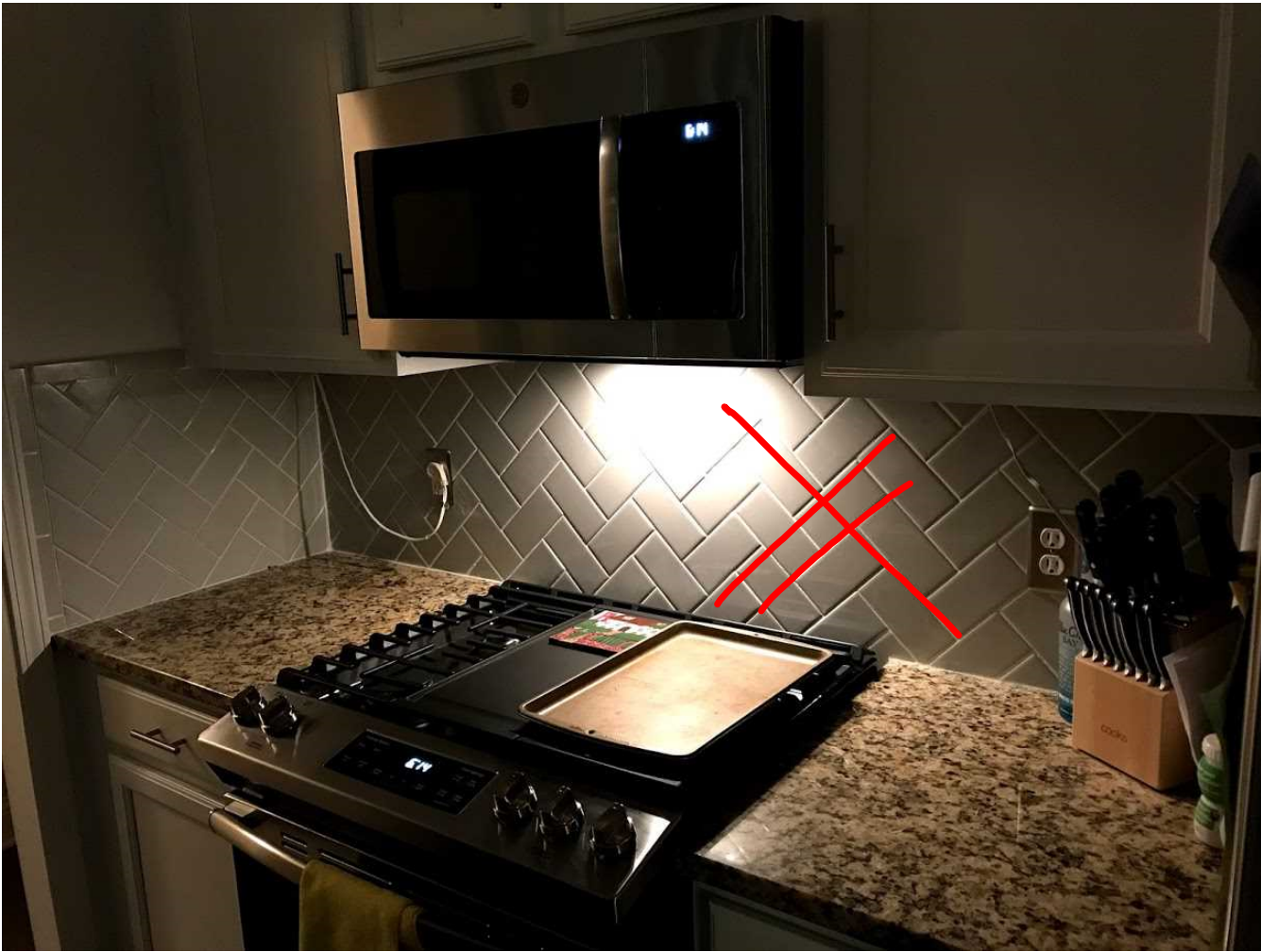
C. $180-x$

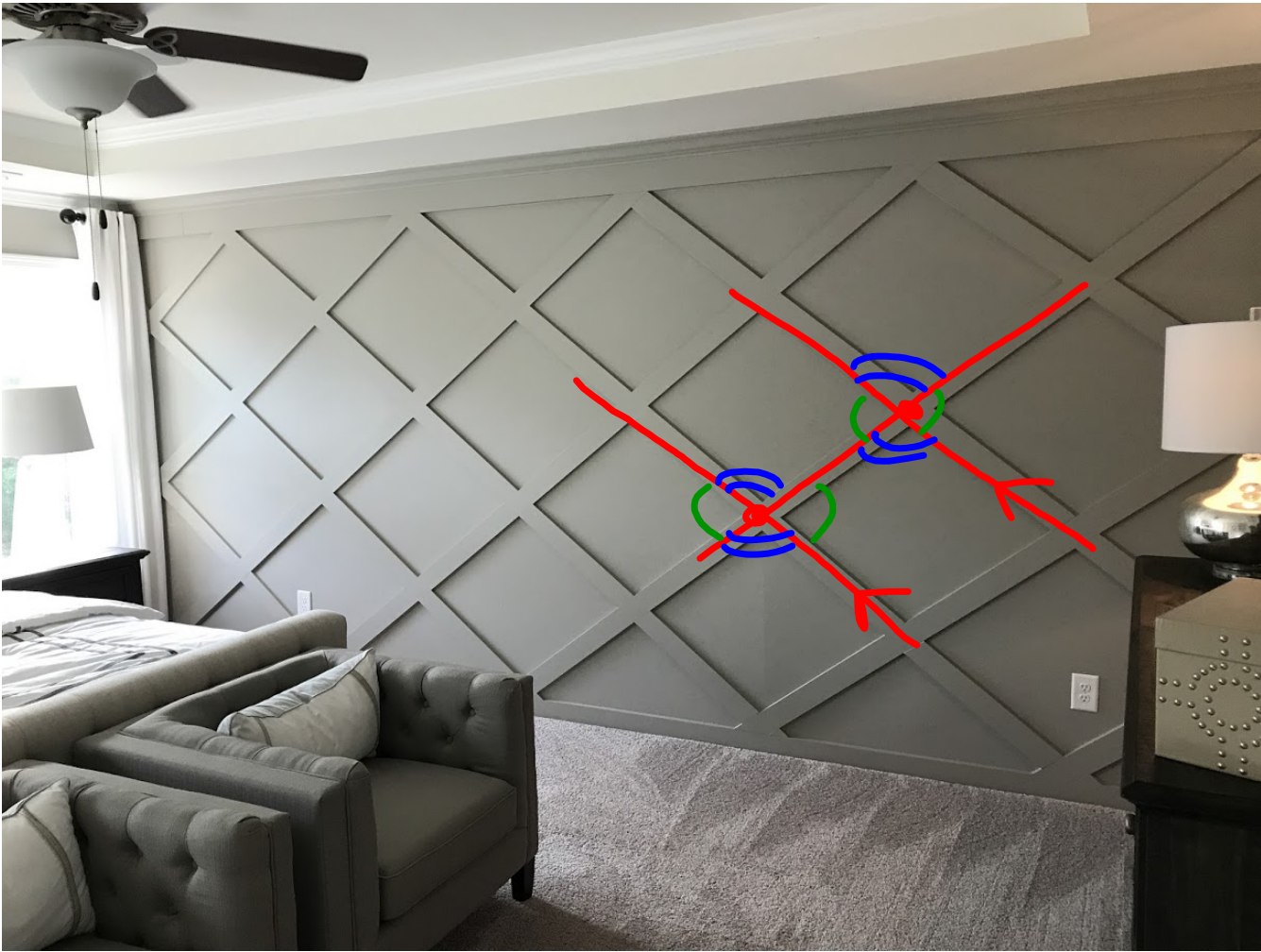
D. Not enough information to determine.











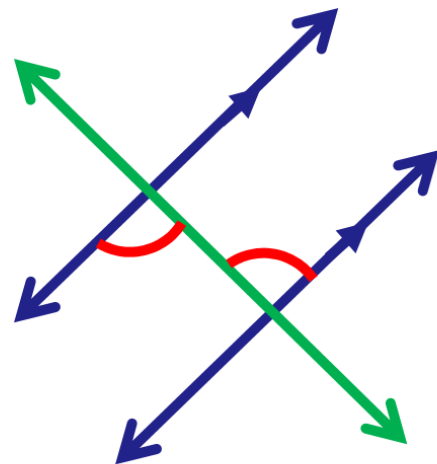
Parallel Lines & Transversals

Alternate Interior Angles

- Opposite sides of the **transversal** & inside the parallels
- *Are congruent*

Equation:

$$\text{angle} = \text{angle}$$

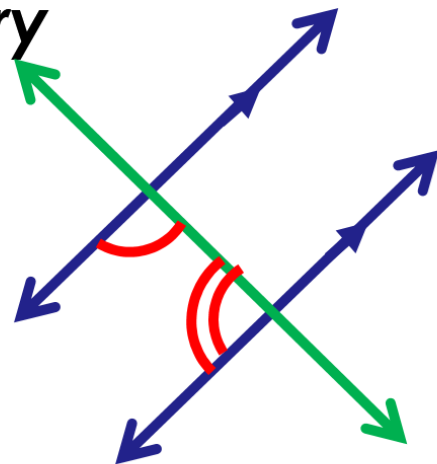


Consecutive Interior Angles

- Same side of the **transversal** & inside the parallels
- *Are supplementary*

Equation:

$$\text{angle} + \text{angle} = 180^\circ$$

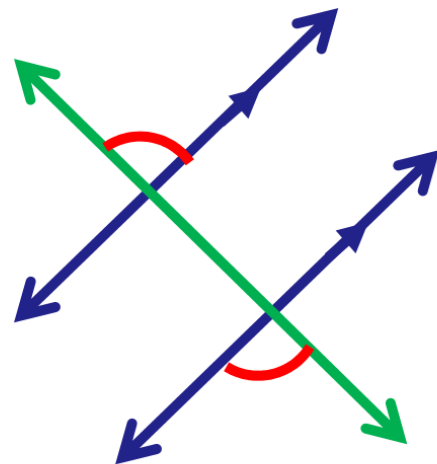


Alternate Exterior Angles

- Opposite sides of the **transversal** & outside the parallels
- *Are congruent*

Equation:

$$\text{angle} = \text{angle}$$

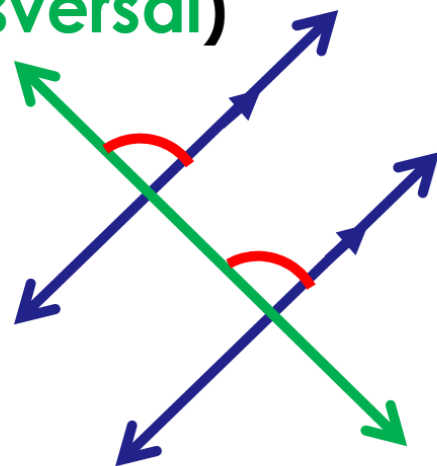


Corresponding Angles

- Same location but at different intersections (only travel on the **transversal**)
- *Are congruent*

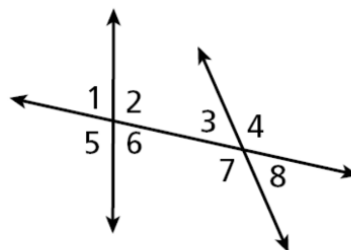
Equation:

$$\text{angle} = \text{angle}$$



Identify each angle pair.

- 1.** $\angle 1$ and $\angle 3$ **corr. \angle s**
- 2.** $\angle 3$ and $\angle 6$ **alt. int. \angle s**
- 3.** $\angle 4$ and $\angle 5$ **alt. ext. \angle s**
- 4.** $\angle 6$ and $\angle 7$ **consec int \angle s**



Example 1:**Find each angle measure.****A.** $m\angle ECF$

$$x = 70 \text{ Corr. } \angle\text{s Post.}$$

$$m\angle ECF = 70^\circ$$

B. $m\angle DCE$

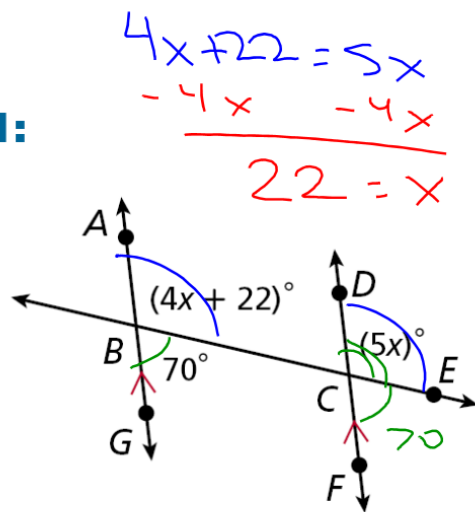
$$5x = 4x + 22 \text{ Corr. } \angle\text{s Post. Solve for } x?$$

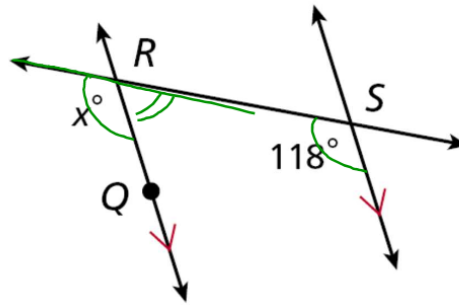
$$x = 22 \text{ Subtract } 4x \text{ from both sides.}$$

$$m\angle DCE = 5x$$

$$= 5(22) \text{ Substitute } 22 \text{ for } x.$$

$$= 110^\circ$$



Example 1**Find $m\angle QRS$.**

$$x = 118 \text{ Corr. } \angle\text{s Post.}$$

$$m\angle QRS + x = 180^\circ$$

$$m\angle QRS = 180^\circ - x$$

$$= 180^\circ - 118^\circ \text{ Substitute } 118^\circ \text{ for } x.$$

$$= 62^\circ$$

*Def. of Linear Pair**Subtract x from both sides.*

Example 2:

Find each angle measure.

A. $m\angle EDG$

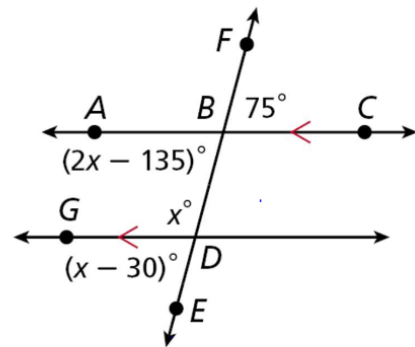
$$m\angle EDG = 75^\circ \text{ Alt. Ext. } \angle\text{s Thm.}$$

B. $m\angle BDG$

$$x - 30^\circ = 75^\circ \text{ Alt. Ext. } \angle\text{s Thm.}$$

$$x = 105 \text{ Add 30 to both sides.}$$

$$m\angle BDG = 105^\circ$$

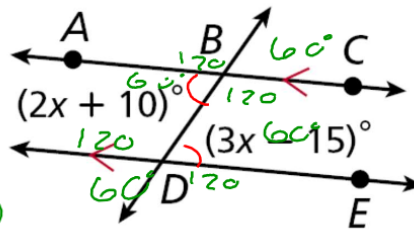


Solve for
X.

Example 2

Find $m\angle ABD$.

60°
 $2 \cdot 25 + 10$



$2x + 10^\circ = 3x - 15^\circ$ Alt. Int. \angle s Thm.

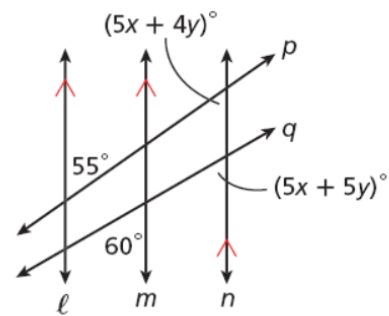
$x = 25$ Subtract 2x and add 15 to both sides.

$m\angle ABD = 2(25) + 10 = 60^\circ$ Substitute 25 for x.

Example 3:**Find x and y in the diagram.**

By the Alternate Interior Angles Theorem, $(5x + 4y)^\circ = 55^\circ$.

By the Corresponding Angles Postulate, $(5x + 5y)^\circ = 60^\circ$.



$$\begin{array}{r} 5x + 5y = 60 \\ -(5x + 4y = 55) \\ \hline y = 5 \end{array}$$

Subtract the first equation from the second equation.

$$5x + 5(5) = 60$$

Substitute 5 for y in $5x + 5y = 60$. Simplify and solve for x .

$$x = 7, y = 5$$