

Name: _____

Hour: _____

*Key*Parallels Cut by a Transversal Day 2 NotesAlgebra

Directions: Find the value of the variable and justify your set up

You must use only the following relationships:

Corresponding angles are congruent

Alternate interior angles are congruent

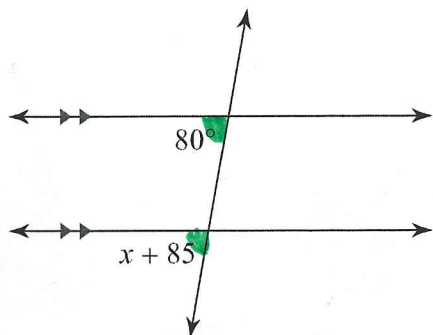
Alternate exterior angles are congruent

Consecutive interior angles are supplementary

Linear pairs are supplementary

Vertical angles are congruent

1.



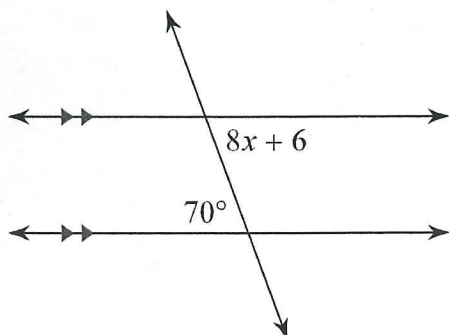
$$\begin{array}{r} x + 85 = 80 \\ -85 \quad -85 \\ \hline \end{array}$$

$$\boxed{x = -5}$$

Not optional!

Justify
corresponding \angle s
are \cong

2.



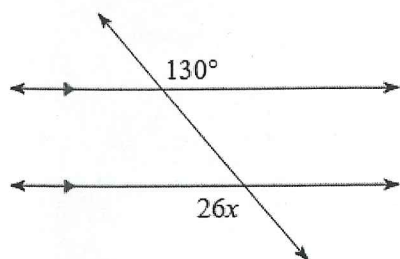
$$\begin{array}{r} 8x + 6 = 70 \\ -6 \quad -6 \\ \hline 8x = 64 \\ \frac{8}{8} \quad \frac{8}{8} \\ \hline \end{array}$$

$$\boxed{x = 8}$$

You must show this!

Justify
alternate interior
angles are \cong

3.

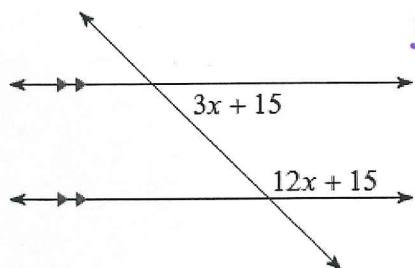


$$\begin{array}{r} 26x = 130 \\ \hline 26 \quad 26 \end{array}$$

$$\boxed{x = 5}$$

alternate exterior angles are \cong

4.



$$3x + 15 + 12x + 15 = 180$$

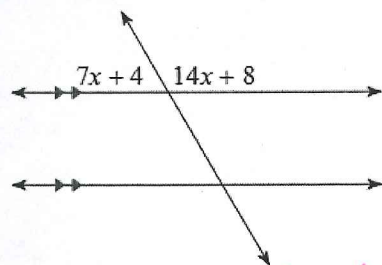
$$\begin{array}{r} 15x + 30 = 180 \\ -30 \quad -30 \end{array}$$

$$\begin{array}{r} 15x = 150 \\ \hline 15 \quad 15 \end{array}$$

$$\boxed{x = 10}$$

consecutive interior angles are suppl.

5.



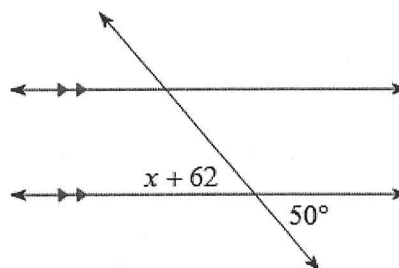
$$7x + 4 + 14x + 8 = 180 \quad \text{Linear pairs are suppl.}$$

$$21x + 12 = 180$$

$$\begin{array}{r} -12 \quad -12 \\ 21x = 168 \\ \hline 21 \quad 21 \end{array}$$

$$\boxed{x = 8}$$

6.



$$\begin{array}{r} x + 62 = 50 \\ -62 \quad -62 \end{array}$$

$$\boxed{x = -12}$$

vertical \angle s are \cong

Review: Find all of the angle measures of $a \parallel b$ and $m \parallel n$ if $m\angle 12 = 112^\circ$

