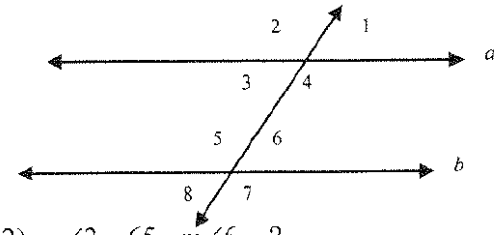
Geometry Name _____

Do Now Parallel Lines Date _____ Per _____

What are the Parallel Line Theorems?



#1-8: Using the figure at the right, ***find the measure*** *of the angle if a // b :*

1) $m\angle 1 = 45,\ m\angle 6 = ?$

2) $m\angle 3 = 65,\ m\angle 6 = ?$

3) $m\angle 3 = 35,\ m\angle 5 = ?$

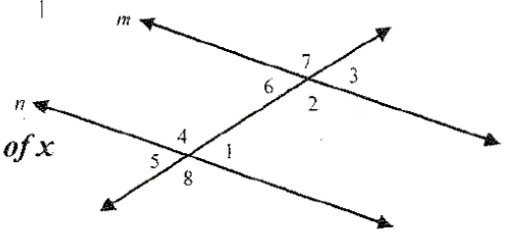
4) $m\angle 4 = 130,\ m\angle 7 = ?$

5) $m\angle 1 = 45,\ m\angle 8 = ?$

6) $m\angle 4 = 126,\ m\angle 6 = ?$

7) $m\angle 2 = 115,\ m\angle 6 = ?$

8) $m\angle 4 = 115,\ m\angle 5 = ?$



#9-12: Using the figure at the right, ***find the value of x and the indicated angle*** *if m // n :*

9) $m\angle 4 = 3x - 10,\ m\angle 2 = x + 80,\ m\angle 4 = ?$

10) $m\angle 1 = 3x - 10,\ m\angle 2 = 2x + 40,\ m\angle 3 = ?$

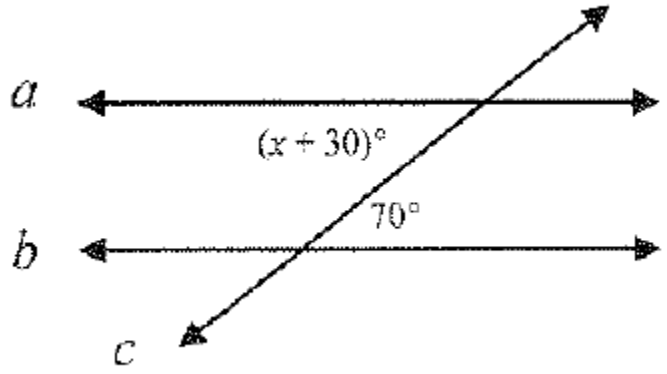
11) $m\angle 7 = 5x - 20,\ m\angle 5 = 4x + 57,\ m\angle 7 = ?$

12) $m\angle 1 = 5x - 40,\ m\angle 3 = 3x,\ m\angle 2 = ?$

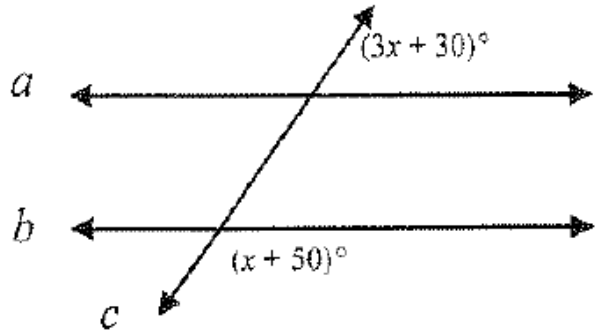
#13-18) If $a \parallel b$, and lines a and b are cut by transversal c,

a) Identify the relationship between the angles _____ b) Find x:

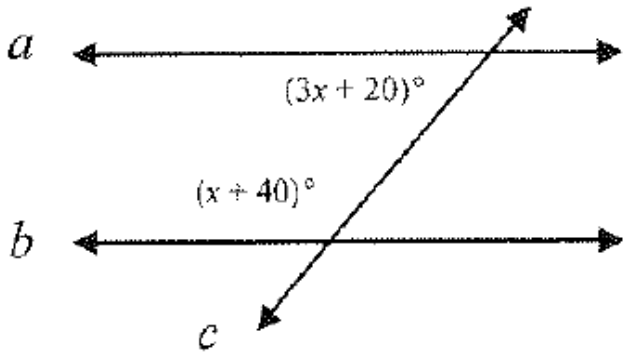
13)



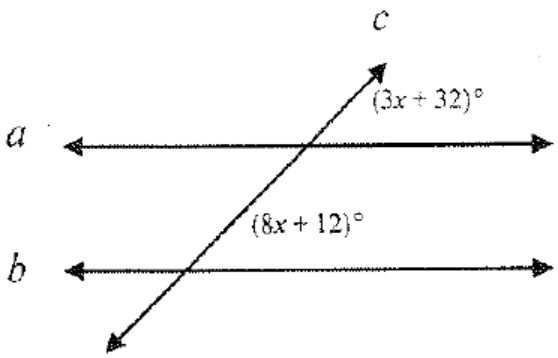
14)



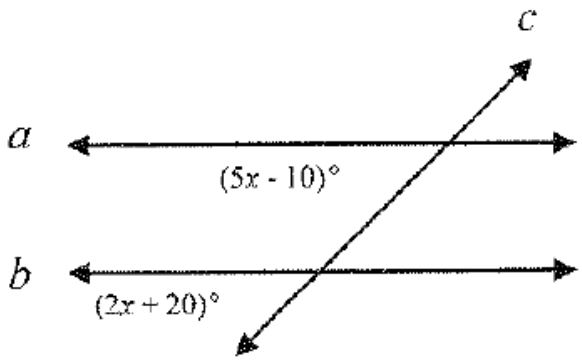
15)



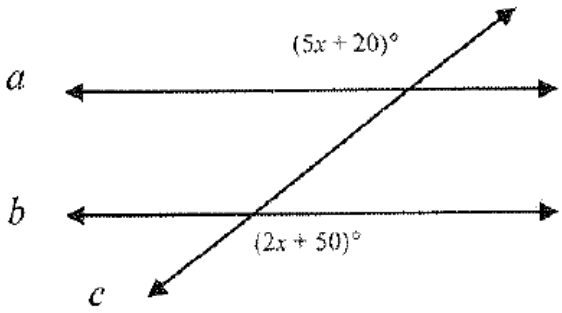
16)



17)

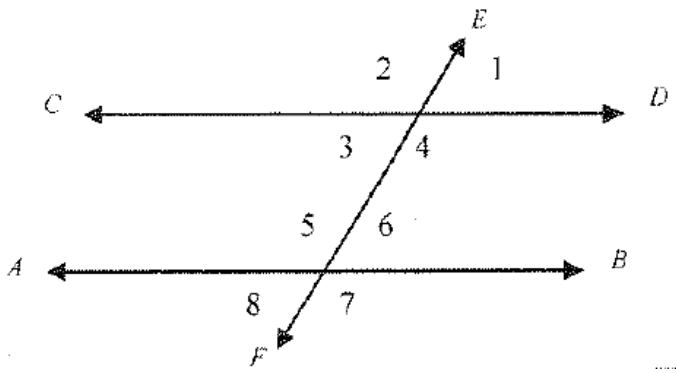


18)



Given $\overleftrightarrow{AB} \parallel \overleftrightarrow{CD}$ *with transversal* $\overleftrightarrow{EF}$,

1) What angles are congruent to $\angle 3$?



Use the figure to answer the following questions:

2) If $m\angle 5 = 2x + 10$ and $m\angle 4 = 5x - 50$ then find $m\angle 5$

3) If $m\angle 7 = 5x + 20$ and $m\angle 4 = 2x + 80$ then find $m\angle 4$

4) If $m\angle 5 = 4x + 20$ and $m\angle 3 = x + 50$ then find $m\angle 8$

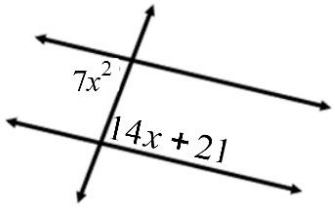
5) If $m\angle 1 = 5x + 30$ and $m\angle 8 = 2x + 60$ then find $m\angle 7$

6) If $m\angle 4 : m\angle 6 = 5 : 4$ then find $m\angle 3$

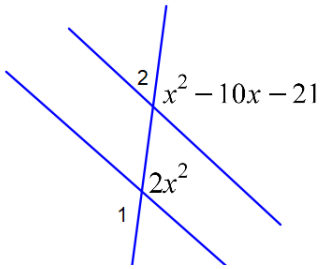
7) If $m\angle 8 = \frac{5}{7} m\angle 2$ then find $m\angle 4$

Assume lines that look parallel are.

8) Solve for x.



9) Find the measure of angle 1 and 2.



10) If the $m\angle 1 = 2x \; and \; m\angle 2 = x^2 + 3x - 6$ find the measure of angle 1 and 2.