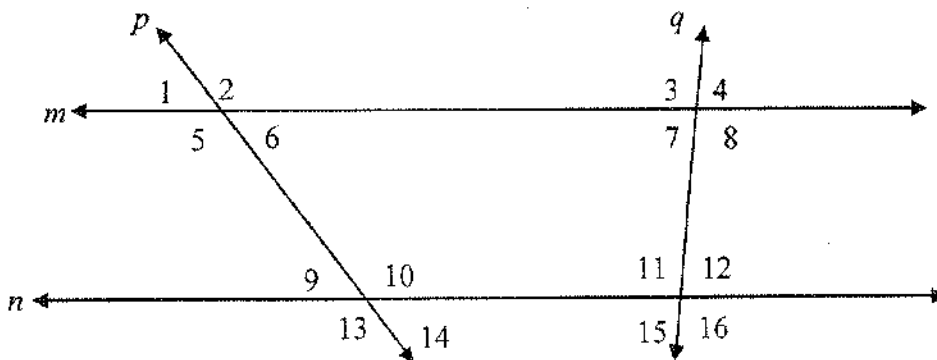


Name _____

Math 3

DO NOW

Given $m \parallel n$ with transversals p and q , identify the relationship between the two indicated angle:



1) $\angle 1$ and $\angle 5$

2) $\angle 3$ and $\angle 8$

3) $\angle 2$ and $\angle 10$

4) $\angle 7$ and $\angle 12$

5) $\angle 1$ and $\angle 14$

6) $\angle 5$ and $\angle 9$

7) $\angle 3$ and $\angle 15$

8) $\angle 2$ and $\angle 13$

9) $\angle 6$ and $\angle 9$

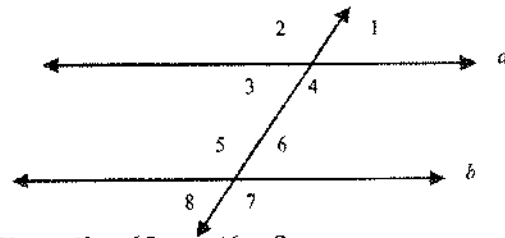
10) $\angle 3$ and $\angle 11$

Name _____

Math 3

What are the Parallel Line Theorems?

#1-8: Using the figure at the right, find the measure of the angle if $a \parallel b$:



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

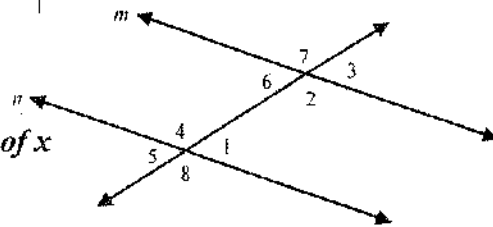
5) $m\angle 1 = 45$, $m\angle 8 = ?$

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 $m \parallel n$:



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

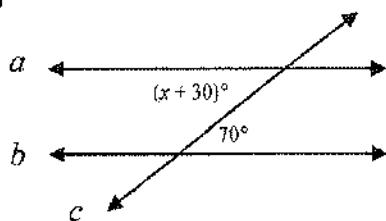
12) $m\angle 1 = 5x - 40$, $m\angle 3 = 3x$, $m\angle 2 = ?$

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

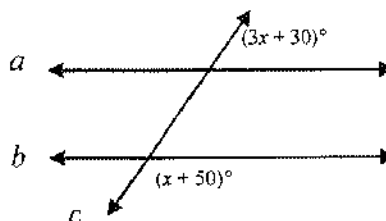
a) Identify the relationship between the angles

b) Find x :

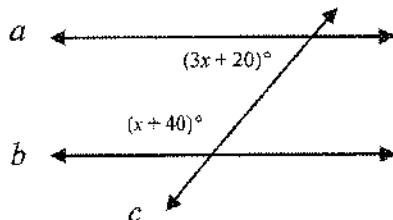
13)



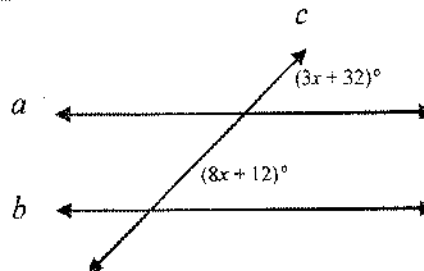
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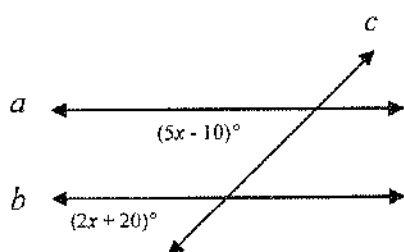
15)



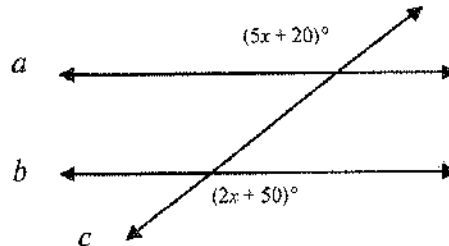
16)



17)

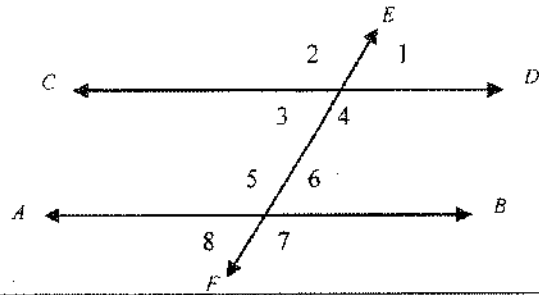


18)



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

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 $m\angle 4$