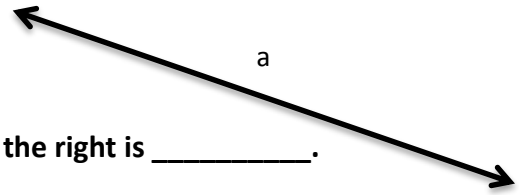
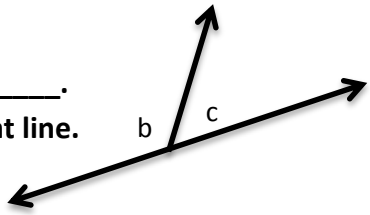
NAME_____

Summing to 180°

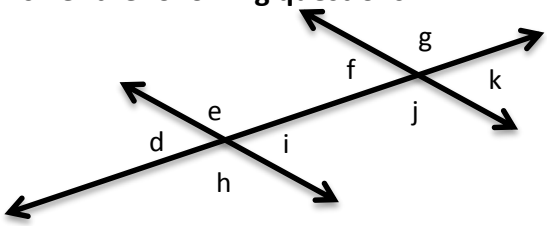


1. **The measure of the angle a, pictured to the right is _____.**

2. **Therefore the sum of the two angles b and c pictured here is equal to _____.**
3. **Angles b and c are called a "linear pair", because together they form a straight line.**



4. **Apply this information to answer the following questions…**



a. If m<d = 45˚, then m<e = _____.

b. If m<i = 37˚, then m<e = _____.

c. If m<j = 170˚, then m<k = _____.

d. If m<g = 153˚, then m<f = _____.

e. If m<g = 149˚, then m<j = _____.

f. If m<i = 21˚, then m<j = _____.

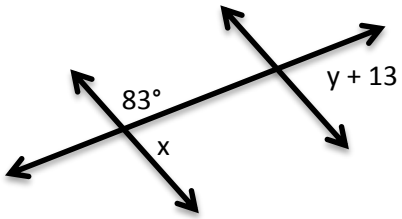
g. If m<d = 14˚, then m<i = _____.

H. If m<h = 130˚, then m<j = _____.

Now let's get a little tougher!

5. Each of the following diagrams show parallel lines, cut by a transversal. Apply the information above to evaluate the value of each variable. Show work.

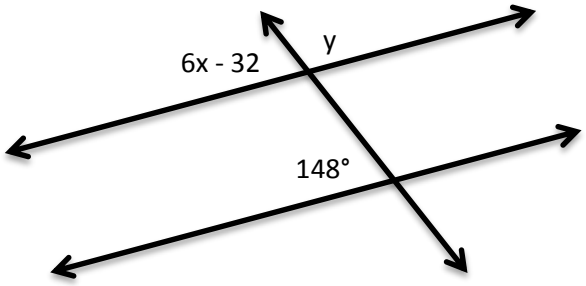
a.



x = _____

y = _____

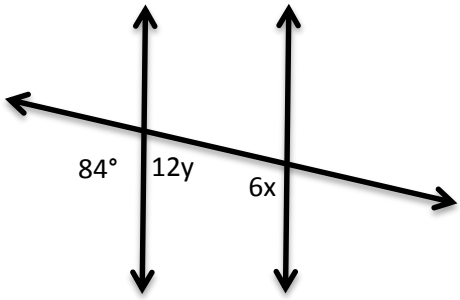
b.



x = _____

y = _____

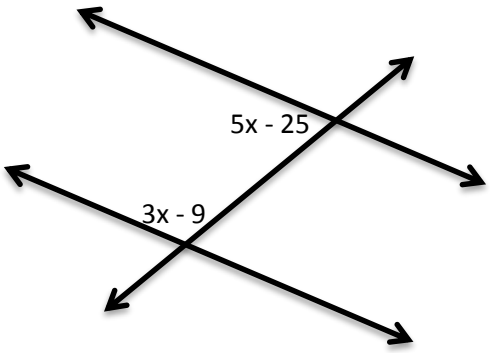
c.



x = _____

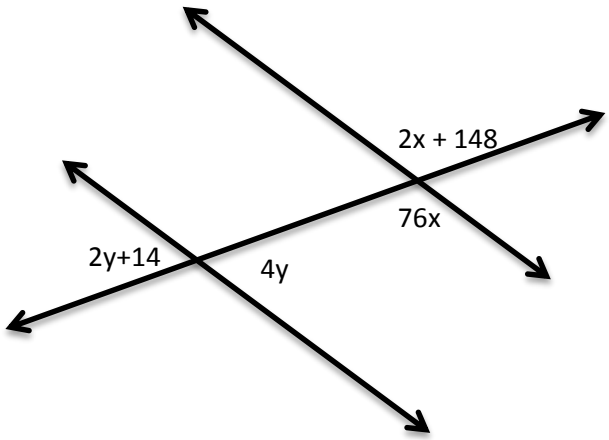
y = _____

d.



x = _____

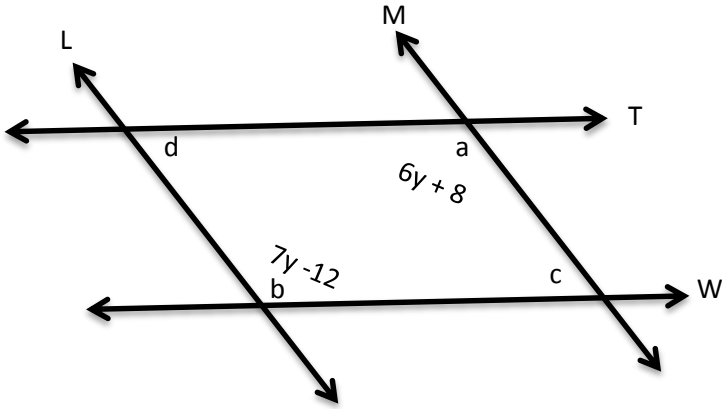
e.



x = _____

y = _____

5. L is parallel to M and T is parallel to W (forming a parallelogram). Opposite angles in a parallelogram, such as <a and <b are equal in measure. Apply what you know about parallelograms to evaluate the measure of each angle by finding the value of y. Show work.



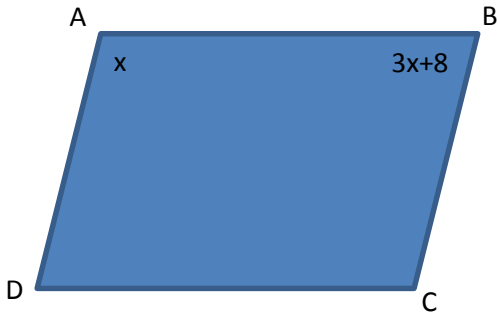
m<a = _____

m<b = _____

m<c = _____

m<d = _____

6. Quadrilateral ABCD is a parallelogram. Apply what you learned in #5 to evaluate the measure of each of the angles in the parallelogram. Show work.



m<A = _____

m<B = _____

m<C = _____

m<D = _____

7. Look at the picture in #6. The following pairs of angles are "pairs of consecutive angles" in a parallelogram: <D and <C, <C and <B, <B and <A, <A and <D

Applying what you know about angles and using #6 if needed, what is the relationship between consecutive angles in a parallelogram?