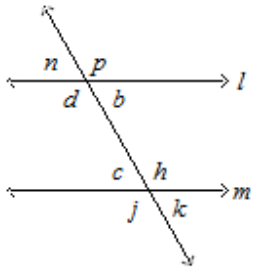
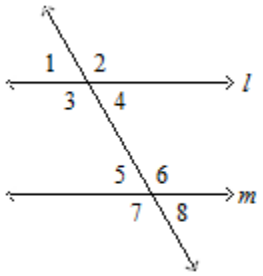
Name: _____ **Honors Geometry Review for Test 2**

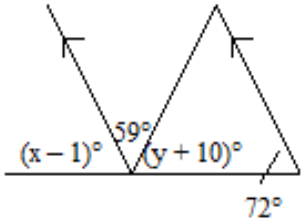
1) If line l is parallel to line m, prove that <p and <k are supplementary.



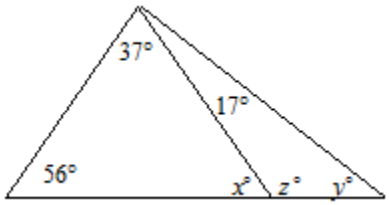
2) If line l is parallel to line m, find x if m<2 = 3x - 4 and m<6 = 4x - 8.



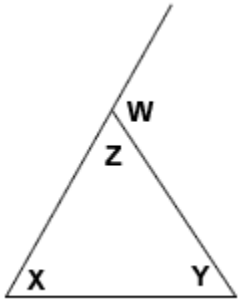
3) Find the value of x and y.



4) Find the value of x,y, and z.

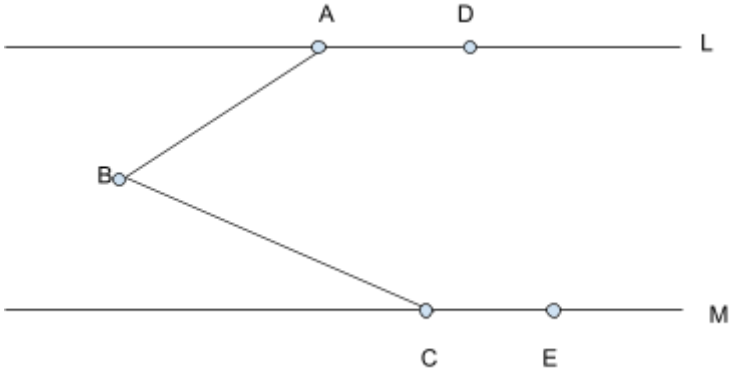


5) If <x and <z are congruent, m<x = 45, m<w = 6x - 7, find x.

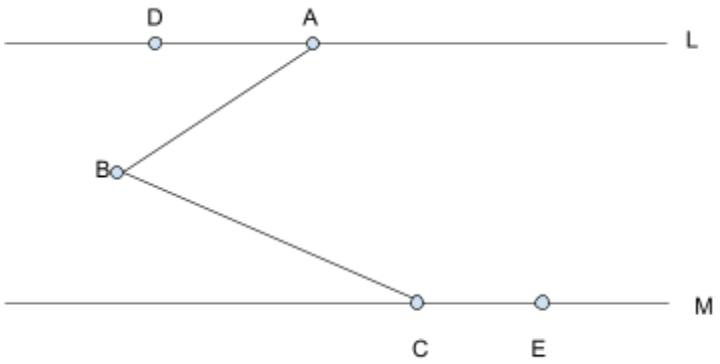


6) In an A-frame house, the two congruent sides extend from the ground to form a 55 degree angle at the peak. What angle does each side form with the ground?

7) Assume ∠DAB= αand ∠ABC= β; find an equation for ∠BCE in terms of α and β if line L is parallel to line M. Please give reasons why you are writing specific criteria.



8) If line L is parallel to line M; $\angle DAB = \alpha$ and $\angle BCE = \beta$; generate an equation for $\angle ABC$ in terms of α and β. Please use explanations.



9) Construct a set of Parallel Lines

If you do not have a compass, you may explain to me the steps or free hand the steps

10) Construct a set of Perpendicular Lines

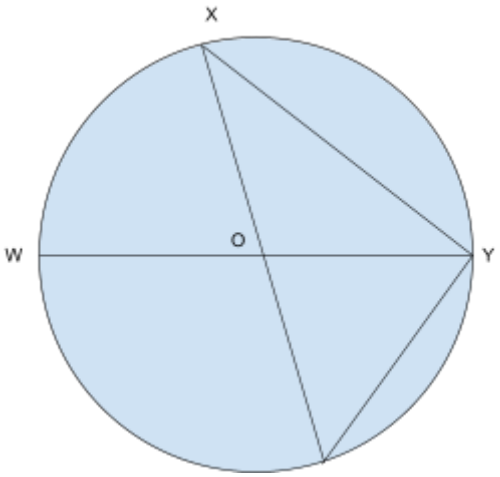
If you do not have a compass, you may explain to me the steps or free hand the steps

11) Angles A and B are same side interior angles that change measure according to the time. Assume Angle A fluctuates measurement with the equation $A = -45\sqrt{t + 8}$; whereas Angle B fluctuates measurements with the equation $B = 270t$. If t represented the amount of seconds you must wait for the angle to be a specific measurement, how long would you need to wait for the angles to form parallel lines?

12) Angles A and B are alternate interior angles that change measure according to the temperature. Assume Angle A fluctuates measurement with the equation $A = 1 + 10\sqrt{3F^2 + 52}$; whereas Angle B fluctuates measurements with the equation $B = 20F + 21$. If F represented the temperature in Fahrenheit for an angle to be a specific measurement, what temperature would you need to use for the angles to form parallel lines?

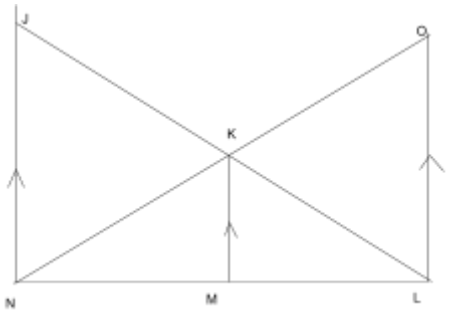
13) If $\triangle ABC$ *can* be an isosceles triangle and the angles of the triangle fluctuate according to time in seconds. Assume the equation of Angle A is $[-2t^2 - 12t + 43]$and Angle B is $[-3t^2 + 7]$. Would it be possible in a realistic scenario to have angle A and B the base angles of this isosceles triangle?

14) Assume WY is the diameter of the circle and O is the center. If $\angle XYW = \alpha$ prove that $\angle YXW = 90$ degrees.



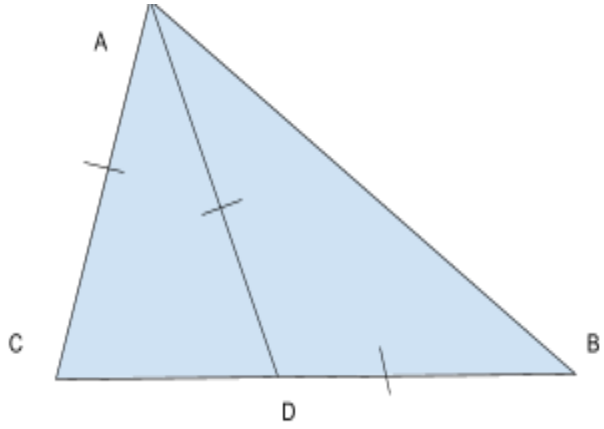
Hint: Connect XW to form a line to start

15) If $\overline{KM}$is the angle bisector of $\angle NKL$; prove $\triangle JKN$is isosceles.

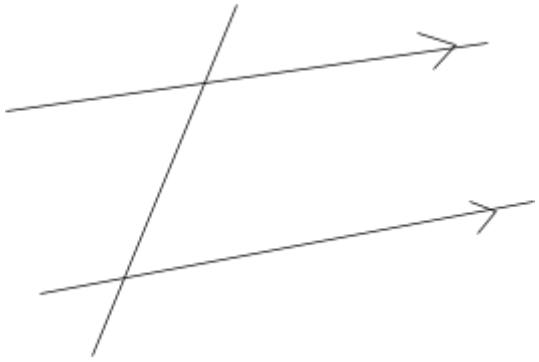


Hint: This is like problem 5 from the proving angles in triangles practice problems (Triangle OKL on the right is extra in this problem and you can get rid of it)

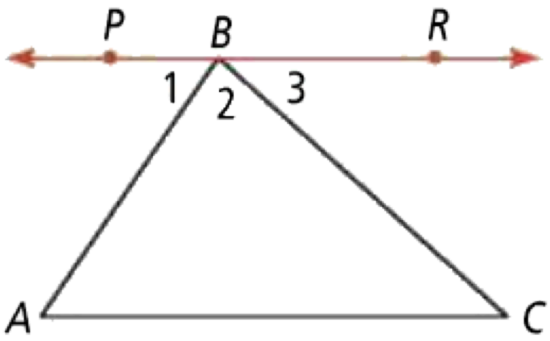
16) m ∠DCA = 8x and △ABC is isosceles with a vertex angle of B, what must the numerical value for x be equal to? You must show your work!



17) If corresponding angles are congruent through parallel lines, prove alternate exterior angles are congruent. (You can't just say alt. ext. angles are congruent. You must prove it!)



18) Prove the triangle sum theorem.



Name: Key **Honors Geometry Review for Test 2**

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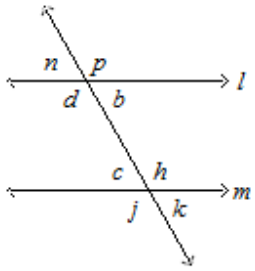
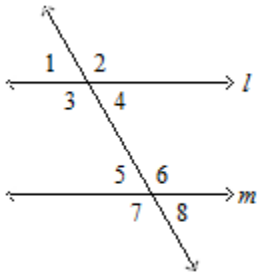


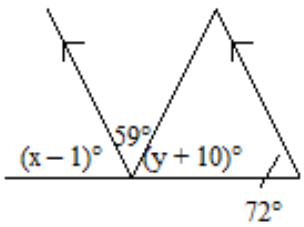
You need a proof

2) If line l is parallel to line m, find x if m<2 = 3x - 4 and m<6 = 4x - 8.



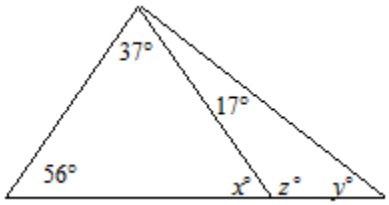
x = 4

3) Find the value of x and y.



x = 73; y = 39

4) Find the value of x,y, and z.



x = 87; y = 70; z = 93

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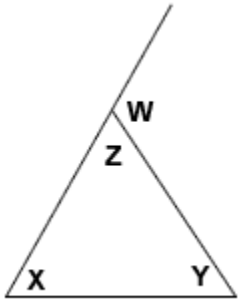
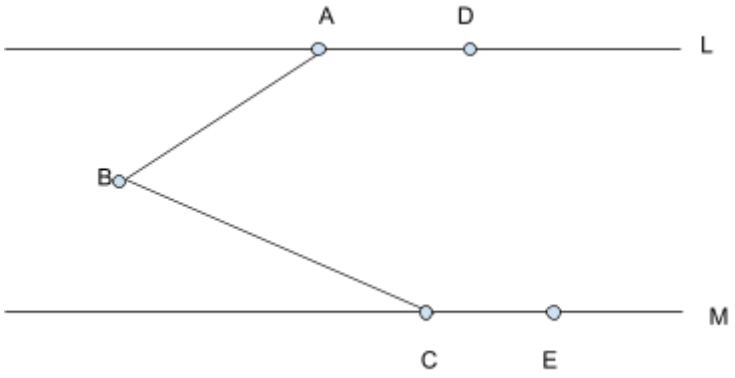


x = 23.67

6) In an A-frame house, the two congruent sides extend from the ground to form a 55 degree angle at the peak. What angle does each side form with the ground?

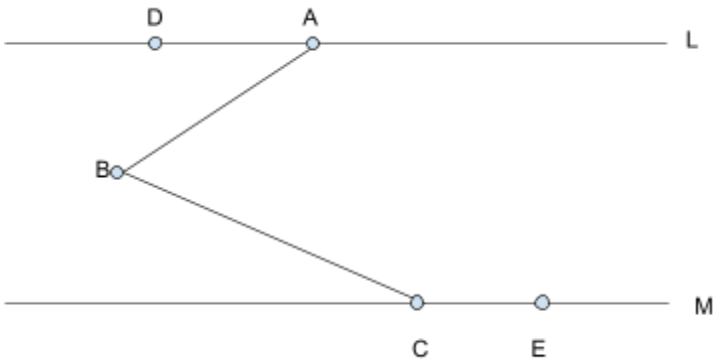
Angle = 62.5 degrees

7) Assume ∠DAB= αand ∠ABC= β; find an equation for ∠BCE in terms of α and β if line L is parallel to line M. Please give reasons why you are writing specific criteria.



<BCE = 360 - Beta - Alpha (You need a proof)

8) If line L is parallel to line M; ∠DAB= αand ∠BCE= β; generate an equation for ∠ABC in terms of αandβ. Please use explanations.



<ABC = 180 - Beta + Alpha (You need a proof)

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t = No Solution (t= 1.2 sec. and t = 0.2 sec. both give you a negative angle for A)

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F = 4 degrees

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t = 6 so it would be possible

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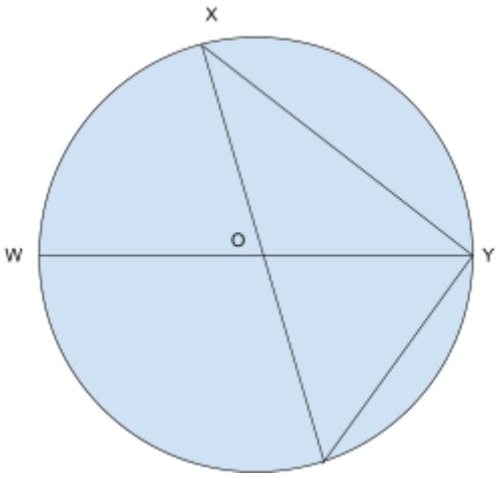

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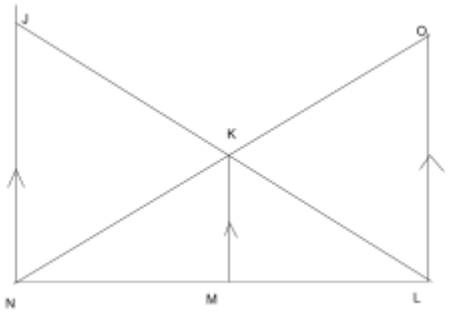

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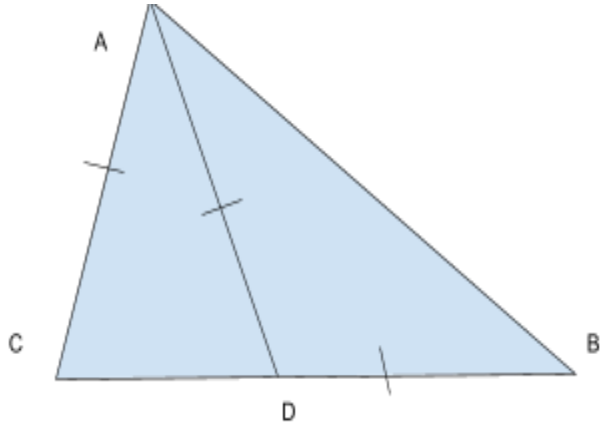

x = 9

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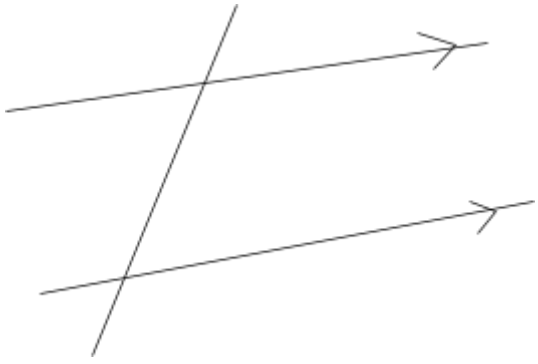

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