

Pre-Algebra  
**Worksheet 10 Geometry**

1. An isosceles triangle has two equal angles with the third angle =  $30^\circ$ . What is the measure of the other two angles?
2. I build a boat ramp 40 feet along the base and 30 feet high. What's the length of the ramp?
3. Prove that in an isosceles triangle, the angles opposite the equal sides equal each other.
4. You enter a building with all its corridors at right angles to each other. To get to class, you turn right, then left, then right, then right. Through what total angle did you turn to enter the classroom?
5. Draw a pair of congruent triangles. Draw a pair of similar triangles.
6. Prove that the area of a triangle =  $\frac{1}{2}$ base $\times$ height (see Figure 14 in the class notes).
7. You cut a pizza into eight equal slices. What's the angle at the vertex (point) of each slice?
8. You have a circle of radius 2 inches and cut out a sector of angle  $90^\circ$ . You then join up the sides to make a cone. What is the diameter of the circle which is now the base of the cone?
9. Name five everyday objects that are spheres. Name five everyday objects that are cylinders. Name five everyday objects that are rectangular solids.
10. Suppose you try to fit a square peg in a round hole. The hole's diameter is four inches. What's the width of the largest square peg you can put into the hole? How about fitting a round peg into a square hole of width four inches: what's the diameter of the largest round peg you can insert in the hole?