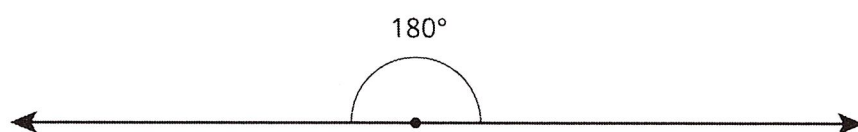


Are you ready for more?

1. Draw a quadrilateral. Cut it out, tear off its angles, and line them up. What do you notice?
2. Repeat this for several more quadrilaterals. Do you have a conjecture about the angles?

Lesson 15 Summary

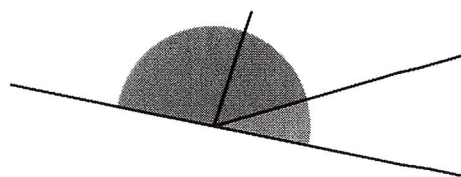
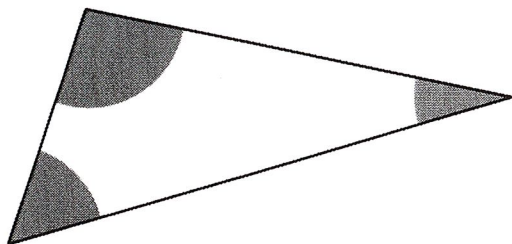
A  $180^\circ$  angle is called a **straight angle** because when it is made with two rays, they point in opposite directions and form a straight line.



If we experiment with angles in a triangle, we find that the sum of the measures of the three angles in each triangle is  $180^\circ$ —the same as a straight angle!

Through experimentation we find:

- If we add the three angles of a triangle physically by cutting them off and lining up the vertices and sides, then the three angles form a straight angle.
- If we have a line and two rays that form three angles added to make a straight angle, then there is a triangle with these three angles.



\* If you know 2 angles in a  $\Delta$  you can find a 3rd angle by adding the 2 known angles & subtracting your answer from  $180^\circ$   
 Ex:  $60^\circ, 40^\circ, \underline{80^\circ}$

$$\begin{array}{r} 60 \quad 180 \\ + 40 \quad - 100 \\ \hline 100 \quad \underline{80^\circ} \end{array}$$

\* If you have 2 angles  $90^\circ$  or larger, you cannot make a  $\Delta$ .