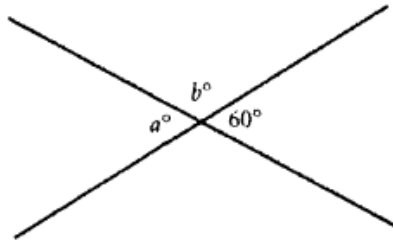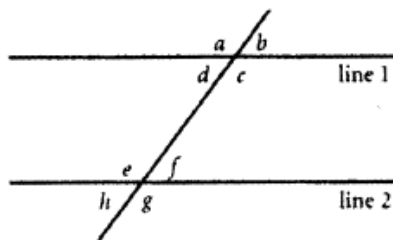# LINES AND ANGLES

78. INTERSECTING LINES

When two lines intersect, **adjacent angles are supplementary** and **vertical angles are equal.**

In the figure above, the angles marked $a°$ and $b°$ are adjacent and supplementary, so $a + b = 180$. Furthermore, the angles marked $a°$ and $60°$ are vertical and equal, so $a = 60$.

79. PARALLEL LINES AND TRANSVERSALS

A transversal across parallel lines forms **four equal acute angles and four equal obtuse angles.**

Here, line 1 is parallel to line 2. Angles a, c, e, and g are obtuse, so they are all equal. Angles b, d, f, and h are acute, so they are all equal.

Furthermore, **any of the acute angles is supplementary to any of the obtuse angles.** Angles a and h are supplementary, as are b and e, c and f, and so on.