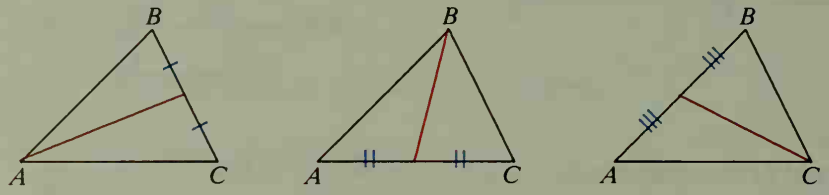
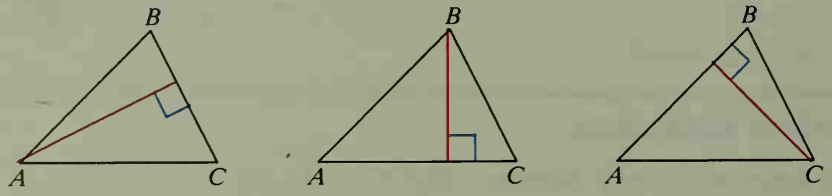
4-7 Medians, Altitudes, and Perpendicular Bisectors

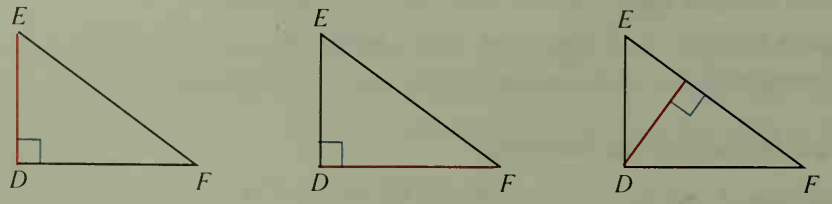
A **median** of a triangle is a segment from a vertex to the midpoint of the opposite side. The three medians of $\triangle ABC$ are shown below in red.



An **altitude** of a triangle is the perpendicular segment from a vertex to the line that contains the opposite side. In an acute triangle, the three altitudes are all inside the triangle.



In a right triangle, two of the altitudes are parts of the triangle. They are the legs of the right triangle. The third altitude is inside the triangle.



In an obtuse triangle, two of the altitudes are outside the triangle. For obtuse $\triangle KLN$, $\overline{LH}$ is the altitude from L, and $\overline{NI}$ is the altitude from N.