Directions: Show your work, organize, and write clearly. Use correct syntax.

1. Plot the point \(A(0,2)\) and \(B(6,2)\). Label the coordinate axes. A third point \(C\) in the first quadrant lies above the line \(AB\), and makes angles \(\angle BAC = 60^\circ\) and \(\angle ABC = 45^\circ\). Then determine the area of triangle \(\triangle ABC\).

2. Plot the point \(A(2,3)\) and \(B(10,3)\). Label the coordinate axes. A third point \(C\) in the first quadrant lies above the line \(AB\), and makes angles \(\angle BAC = 60^\circ\) and \(\angle ABC = 105^\circ\). Determine the area of triangle \(\triangle ABC\).