Math 175 Homework 10

Directions: Show your work, organize, and write clearly.

1. Sketch the pair of points. Then find the slope and the slope-intercept form of the line that contains the pair of points.
   (a) \((1, \frac{5}{6})\) and \((-1, -\frac{1}{6})\)
   (b) \((1, \frac{1}{12})\) and \((\frac{1}{3}, -\frac{5}{12})\)

2. Plot the point \(A(0, 0)\) and \(B(12, 0)\). A third point \(C\) in the first quadrant makes angles \(\angle ABC = 105^\circ\) and \(\angle BAC = 30^\circ\).
   a) Find an equation of the line containing \(A\) and \(C\).
   b) Determine the \(y\)-coordinate of point \(C\).

3. Plot the point \(A(2, 1)\) and \(B(6, 1)\). A third point \(C\) in the first quadrant makes angles \(\angle ABC = 75^\circ\) and \(\angle BAC = 60^\circ\).
   a) Find an equation of the line containing \(A\) and \(C\).
   b) Determine the \(y\)-coordinate of point \(C\).