Math 175 Homework 19

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

1. Plot the points $A(1,0)$, $B(3,0)$, and $C(2,-1)$.
   (a) Determine the measurement of angle $\angle ABC$.
   (b) Find an equation of the parabola that opens upward, and that contains points $A$, $B$, $C$.

2. Let $f(x) = x^2 - 3$.
   (a) Determine the $x$-intercepts $A$ and $B$ of the parabola $y = f(x)$.
   (b) Determine the coordinates of the vertex $C$ of the parabola $y = f(x)$.
   (c) If $A$ lies to the left of $B$, determine the measurement of angle $\angle BAC$.

3. Plot the points $A(1,3)$, $B(3,3)$, and $C(2,3 - \sqrt{3})$.
   (a) Determine the measurement of angle $\angle ABC$.
   (b) Find an equation of the parabola that opens upward, and that contains points $A$, $B$, $C$. 