Figure 3 If the function $f(x)$ does not change sign between two points, there may not be any roots for the equation $f(x) = 0$ between the two points.
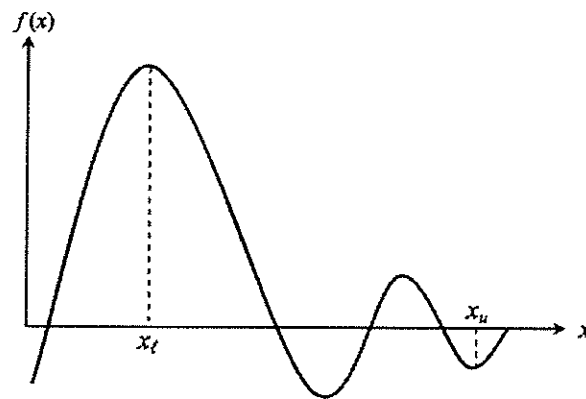

Figure 4. If the function $f(x)$ changes sign between the two points, more than one root for the equation $f(x) = 0$ may exist between the two points.