In class work 10 has questions 1 through 3 with a total of 3 points. Turn in your work at the end of class *on paper.* This assignment is due *Wednesday 26 October at 13:15* P M.

1. For the function $U(x) = x^4 - 6x^2 + 8x$, find

   ☐1   (a) The location of all local minimums; the location of all local maximums.

   ☐1   (b) $\min_{[-4,4]}(U)$

   ☐1   (c) $\max_{[-4,4]}(U)$

2. For the function $N(x) = x\sqrt{9 - x^2}$, find the intervals on which N is decreasing; and find the intervals on which N is increasing.

3. For the function $K(x) = x^4 \ln(x)$, find the intervals on which K is decreasing; and find the intervals on which K is increasing.