Q1]...[5 points] If \( f(x) = xe^{\sqrt{x}} \), then find \( \lim_{h \to 0} \frac{f(4+h)-f(4)}{h} \).
Q2]...[5 points] If $y = mx + k$ is the equation of a line parallel to the line $y = x$ and tangent to the graph of $y = e^{x^2}$, then find the values of $m$ and $k$.

GOOD LUCK