5. [6 points] Find a number k so that the following function is continuous on any interval.

$$j(t) = \begin{cases} (t+4)^3 & t < -2 \\ kt & t \geq -2 \end{cases}$$

Using your value of k, explain why this function is continuous on any interval.

6. [5 points] Using the limit definition of the derivative, write an explicit expression for the derivative of the function $E(x) = x^{\cos x}$ at $x = 2$. Do not try to calculate this derivative.