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

$$
j(t)=\left\{\begin{array}{cc}
(t+4)^{3} & t<-2 \\
k t & t \geq-2
\end{array}\right.
$$

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.

