Let $f(x) = \sin(x)$

1. Find the linear approximation $L(x)$ of $f(x)$ at $x = 0$

2. Use your linear approximation to estimate $\sin(0.25)$

Let $f(x) = e^x$

1. Find $P_5(x)$, the fifth order Taylor Polynomial for $f(x)$ at $x = 0$.

2. Use P_5 to approximate $e = f(1)$.