33. Find the MGF and use it to find $E[X]$ and $Var(X)$ if

$$f_X(x) = \frac{1}{\sqrt{2\pi\sigma^2}} \exp\left\{-\frac{(x-\mu)^2}{2\sigma^2}\right\}, \quad -\infty < x < \infty; -\infty < \mu < \infty, \sigma > 0.$$