M4056 Quiz 2, Sept. 3, 2010 Name______________________

1) Fill in the blanks:

*i*) $E(aX + bY) =$ ______________________

*ii*) $E(X^2) =$ ______________________

*iii*) $Var(aX + b) =$ ______________________

*iv*) If $X$ and $Y$ are independent, $Var(aX + bY) =$ ______________________

2) Suppose $X$ has moment generating function $M_X(t) = E(e^{tX})$. Let $a$ and $b$ be constants. Compute the moment generating function of $aX + b$ and write it in terms of $M_X$.