

95. Solution: E

$$\begin{aligned}M(t_1, t_2) &= E\left[e^{t_1 W + t_2 Z}\right] = E\left[e^{t_1(X+Y) + t_2(Y-X)}\right] = E\left[e^{(t_1-t_2)X} e^{(t_1+t_2)Y}\right] \\ &= E\left[e^{(t_1-t_2)X}\right] E\left[e^{(t_1+t_2)Y}\right] = e^{\frac{1}{2}(t_1-t_2)^2} e^{\frac{1}{2}(t_1+t_2)^2} = e^{\frac{1}{2}(t_1^2 - 2t_1t_2 + t_2^2)} e^{\frac{1}{2}(t_1^2 + 2t_1t_2 + t_2^2)} = e^{t_1^2 + t_2^2}\end{aligned}$$