# Computer Science 181

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Homework 4

**Graph (a)**

$$P(A,B,C,D,E,F,G,H) =$$

$$\frac{1}{z}\Psi_G(G)\Psi_H(H)\Psi_{GHI}(G,H,I)\Psi_{DG}(D,G)\Psi_{EG}(E,G)$$

$$\Psi_{HF}(H,F)\Psi_{BD}(B,D)\Psi_{CEF}(C,E,F)\Psi_{ABC}(A,B,C)$$

**Graph (b)**

$$P(A,B,C,D,E,F,G,H) =$$

$$\frac{1}{z}\Psi_A(A)\Psi_B(B)\Psi_C(C)\Psi_{BD}(B,D)\Psi_{BE}(B,E)\Psi_{CF}(C,F)$$

$$\Psi_{ADG}(A,D,G)\Psi_{DEH}(D,E,H)\Psi_{EFI}(E,F,I)\Psi_{GJ}(G,J)$$

where $z$ is the normalizing constant.