

①

$$x\bar{y}z + xyw + x\bar{y}z\bar{w} = x(\bar{y}z + yw + \bar{y}z\bar{w}) =$$

$$= x(\bar{y}(z + z\bar{w}) + yw) = x(\bar{y}(\overset{1}{\underbrace{(z + z\bar{w})}})) + yw) =$$

$$= x(\bar{y}(z + \bar{w}) + yw) = x(\bar{y}z + \bar{y}\bar{w} + yw) =$$

$$= \underline{x\bar{y}z + x\bar{y}\bar{w} + xyw}$$