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### Jawaban

1) Sebelum disederhanakan :  $f(w, x, y, z) = wxy'z' + wxy'z + wxyz + wxyz'$

Hasil penyederhanaan :  $f(w, x, y, z) = wx$

Bukti secara aljabar :

$$\begin{aligned} f(w, x, y, z) &= wxy'z' + wxy'z + wxyz + wxyz' \\ &= wxy'(z' + z) + wxy(z + z') \\ &= wxy'(1) + wxy(1) \\ &= wxy' + wxy \\ &= wx(y' + y) \\ &= wx(1) \\ &= wx \end{aligned}$$

2) Sebelum disederhanakan :  $f(w, x, y, z) = wxy'z' + wxy'z + wx'y'z' + wx'y'z$

Hasil penyederhanaan :  $f(w, x, y, z) = wy'$

Bukti secara aljabar :

$$\begin{aligned} f(w, x, y, z) &= wxy'z' + wxy'z + wx'y'z' + wx'y'z \\ &= wxy'(z' + z) + wx'y'(z' + z) \\ &= wxy'(1) + wx'y'(1) \\ &= wxy' + wx'y' \\ &= wy'(x + x') \\ &= wy'(1) \\ &= wy' \end{aligned}$$