

b)

$$X = \bar{A}\bar{B}\bar{C}\bar{D} + \bar{A}BCD + A\bar{B}\bar{C}\bar{D} + \bar{A}BC\bar{D} + A\bar{B}C\bar{D}$$

$$Y = \bar{C}\bar{D}$$

$$Z = \bar{A}\bar{B}\bar{C}\bar{D} + A\bar{B}C\bar{D}$$

USING ONLY NAND GATES!

