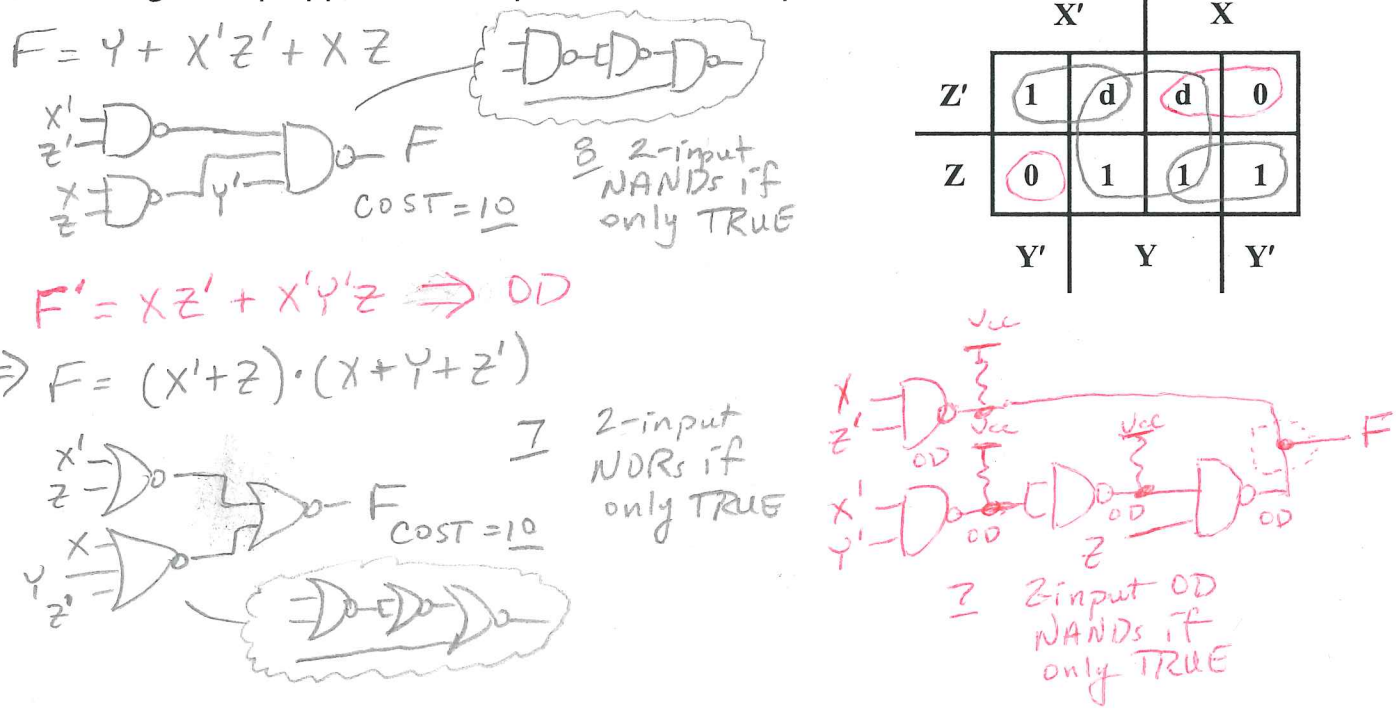
Lab Quiz 5

Closed Book and Notes – No Calculators Allowed

The following K-map applies to the questions on this quiz:

Z \ XY	X′		X	
	Y′	Y	Y	Y′
Z′	1	d	d	0
Z	0	1	1	1



1. The **cost** of a **minimal sum of products** realization of this function (assuming **both true and complemented variables** are available) would be:

   (A) ≤ 7 (B) 8 (C) 9 (D) 10 (E) ≥ 11

2. The **cost** of a **minimal product of sums** realization of this function (assuming **both true and complemented variables** are available) would be:

   (A) ≤ 7 (B) 8 (C) 9 (D) 10 (E) ≥ 11

3. Assuming the availability of **only true** input variables, the **fewest number of 2-input NAND gates** that are needed to realize this function is:

   (A) ≤ 7 (B) 8 (C) 9 (D) 10 (E) ≥ 11

4. Assuming the availability of **only true** input variables, the **fewest number of 2-input NOR gates** that are needed to realize this function is:

   (A) ≤ 7 (B) 8 (C) 9 (D) 10 (E) ≥ 11

5. Assuming the availability of **only true** input variables, the **fewest number of 2-input open-drain NAND gates** that are needed to realize this function is:

   (A) ≤ 7 (B) 8 (C) 9 (D) 10 (E) ≥ 11

   ← can do w/ 6 gates if manipulate SoP form

Signature: _____ **E-mail:** _____ **@purdue.edu**