

UNCC, Department of Electrical and Computer Engineering
ECGR 2181, Fall 2008, Quiz #5, 9/23/2008

Name: _____

1. Consider the following real-world problem.

I have an alarm system that has sensors all over the house. When a sensor reads “0”, then the door or window with the sensor is open. The system is organized into three zones. Both of my two doors is a separate zone, and all of the windows make up the third zone. . I have a keypad that registers “1” when armed and “0 when not armed.

I have several outputs:

- An inside chime should chirp if a door or a window is opened and the alarm is not armed.
- The siren should sound if the alarm system is armed and a door or window opens.

a) Define and express each input as a variable.

b) Express the outputs as separate Boolean equations, similar to what you have seen in class.

c) Draw the circuit for each of the equations.