6. Add a wire jumper that connects pin 1 on the 7400 to zero volts.

7. Add a wire jumper that connects pin 2 on the 7400 to zero volts.

8. Connect the LED, from the lab kit, between pin 3 on the 7400 and ground (zero volts). NOTE: the LED must be connected with the positive lead attached to the 7400.

9. Verify that the LED is lit (it should be lit because both inputs are zero which means the output should be one).

10. Move the jumper that connects pin 2 from zero volts to five volts, and verify that the LED remains lit.

11. Move the jumper that connects pin 2 back to zero volts, move the jumper that connects pin 1 from zero volts to five volts, and verify that the LED remains lit.

12. Keep the jumper from pin 1 on five volts, move the jumper that connects pin 2 to five volts, and verify that the LED goes out.

Optional Extensions (checkmark as each is completed)

13. Wire the breadboard as shown in Figure A1.2 (pin 3 connected to pin 12, and pin 13 acting as an additional input).

14. Connect the LED between pin 11 and ground.

15. Record the LED values for all possible combinations of the three inputs.

16. What Boolean function does the circuit represent?