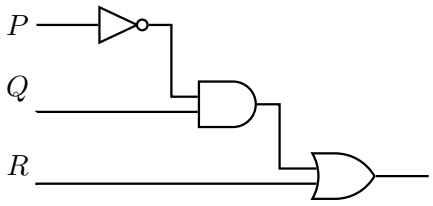
Name: _____

MATH 107
Winter 2022
HW 2: Due 01/04

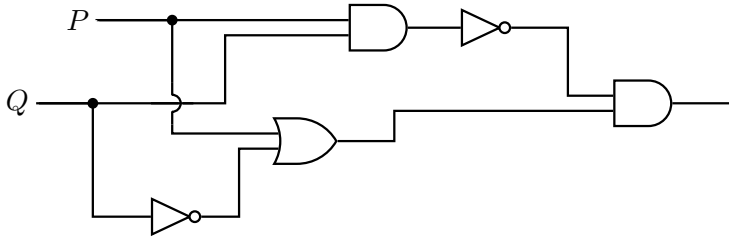
"If the presence of electricity can be made visible in any part of the circuit, I see no reason why intelligence may not be transmitted instantaneously by electricity."

–Samuel Morse

Problem 1. (10pt) Construct the on/off table for the following circuit:



Problem 2. (10pt) Find the logical expression corresponding to the following circuit:



Problem 3. (10pt) Find the circuit corresponding to the following logical expression:

$$(P \wedge Q) \vee (\neg P \wedge R)$$

Problem 4. (10pt) Find a logical expression corresponding to the following input/output table:

P	Q	R	?
1	1	1	0
1	1	0	0
1	0	1	0
1	0	0	1
0	1	1	0
0	1	0	1
0	0	1	1
0	0	0	0

Problem 5. (10pt) Watch Sebastian League's "Exploring How Computers Work" and "How Do Computers Remember?" on YouTube. Being as detailed as possible, explain what you learned and how it relates to the course material.