Quiz #1 October 31, 2001

Show your work so that the method can be graded for correctness and completeness and all of the points do not depend on just the final numerical value.

I (20 Points) Standard Dependent Sources

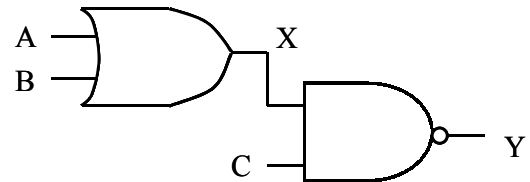a) (13 Points) For the circuit shown find i_{OUT}/i_s.
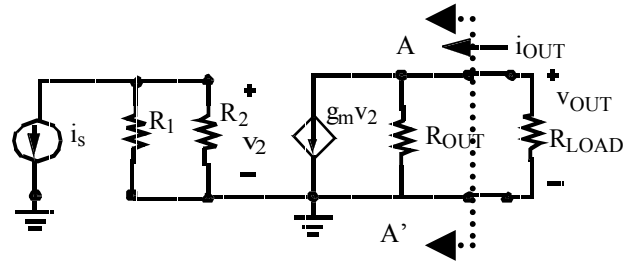
b) (7 Points) Find the Thevenin resistance seen looking to the left of AA'.

II (20 Points) Logic Gates

Inputs A, B, and C have all been zero (low) for a long time and then at t = 0, A and C go to (high) for a long time.

a) (8 Points) Find the values of X and Y just before t = 0, and then as t goes to infinity.

b) Complete the timing diagram below assuming that each gate has a propagation delay of 2 ns before the correct output appears at its output.