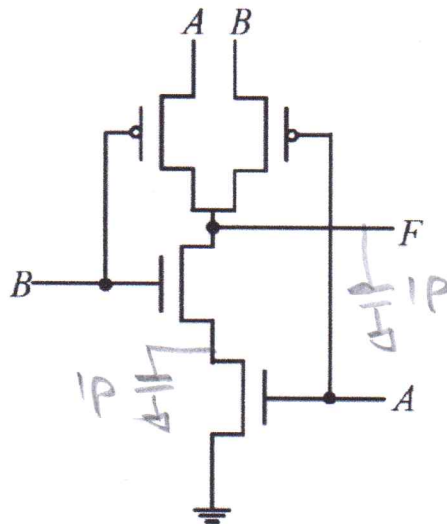- Suppose that all NMOS transistors are identical and all PMOS transistors are identical.
  Equivalent resistor for an NMOS transistor: $R_N = 8k\Omega$
  Equivalent resistor for a PMOS transistor: $R_P = 24k\Omega$
- Suppose that each circuit node (including outputs) has a capacitance value of **1pF**.

a) Derive a Boolean expression for the output **F** in terms of the inputs **A** and **B**.

b) Calculate the worst-case and the best-case propagation delays, t_{PLH} and t_{PHL} values (total of 4 values).

a.)

A	B	F
0	0	0
0	1	1
1	0	1
1	1	0

$$F = A\bar{B} + \bar{A}B$$

b.)

$$t_{PLH-wc} = t_{PLH-bc} = 0.69\,(1p \cdot 24k) = 16.56ns$$

$$t_{PHL-wc} = 0.69\,(16p + 8k\cdot 1p) = 16.56ns$$

$$t_{PHL-bc} = 0.69\,((24k//24k)\,1p) = 8.28ns$$