When instructed to do so, please answer the following questions as best you can. Hand in this worksheet at the end of class. Don’t forget to put your name at the top!

1. Given boolean variables $p$, $q$ and $r$, write a boolean expression that:

   a) evaluates to true if and only if exactly one of $p$, $q$ or $r$ are true.

   b) evaluates to true if and only if all three of $p$, $q$ and $r$ are true.

2. Draw a boolean circuit for $(p \AND q) \OR (p \AND r)$.

3. Draw a boolean circuit for $p \IMPLIES q$. 