Answer the questions on the exam and not on a separate sheet of paper. Please circle your answers and show your work for full credit. There are 4 questions for a total of 20 points.

1. (5 points) Construct a truth table for the following compoing proposition: \((p \rightarrow q) \leftrightarrow (\overline{q} \rightarrow \overline{p})\).

2. (5 points) Convert the 123 in base ten to base 2, 4, 8, and 16.
3. (5 points) Given the 8 bit string $b = 00110101$, what 8 bit number $c$ is such that $b + c = 00000000$?

4. (5 points) Show that $\neg(P \land Q)$ is logically equivalent to $(\neg P) \lor (\neg Q)$.