These tasks are simply logic/proof set-up practice to prepare for our upcoming Exam #1.

1. (a) Write the "if" direction of: $3|ab$ if and only if $3|a$ or $3|b$.

   (b) Write the launch of a proof by contrapositive, through one meaningful sentence beyond the NTS.

   (c) Write the launch of a direct proof, through one meaningful sentence beyond the NTS.

2. (a) Write the "only if" direction of: $ab = 0$ if and only if $a = 0$ or $b = 0$.

   (b) Write the launch of an appropriate proof style (and name that style), through one meaningful sentence beyond the NTS.

3. Write the launch of a proof by contradiction, through one meaningful sentence beyond the NTS: Let $x, y \in \mathbf{R}$. If $x - y = y - x$, then $x = y$.