Direct Proof

Use a direct proof to show:

For all $a, b, c \in \mathbb{Z}$, if $a|b$ and $b|c$, then $a|c$. (leave proof on board)

If finish, please sit and work on proving:
-If $n \in \mathbb{Z}$ is even, then n^2 is even.
-If $n \in \mathbb{Z}$ and $n^2|n$, then $n \in \{-1, 0, 1\}$

Contrapositive

Use a contrapositive proof to show

If a^2 is not divisible by 4, then a is odd.

If finish, please sit and work on proving:
-For every prime number p, either $p = 2$ or p is odd