

c) If $a \in \mathbb{Z}$ and there exists $m \in \mathbb{Z}$ with $a = 10m$, then there exists $m \in \mathbb{Z}$ with $a = 5m$.

We can rewrite this statement as "A"
"For all $a \in \mathbb{Z}$, if there exists $m \in \mathbb{Z}$ with $a = 10m$, then there exists $m \in \mathbb{Z}$ with $a = 5m$."

B

Applying the definition of Contrapositive, we get

"For all $a \in \mathbb{Z}$, if NOT (there exists $m \in \mathbb{Z}$ with $a = 5m$), then NOT (there exists $m \in \mathbb{Z}$ with $a = 10m$)."

which becomes:

"For all $a \in \mathbb{Z}$, if for all $m \in \mathbb{Z}$ we have that $a \neq 5m$, then for all $m \in \mathbb{Z}$ we have that $a \neq 10m$."

This last statement is the contrapositive of the statement given.

In my original scan I realized that I had forgotten to write the converse statement. The converse is simply the negation of the contrapositive.

a) For all $a \in \mathbb{Z}$, if $4a > 7$, then $a \geq 2$.

b) For all $x, y \in \mathbb{R}$, if $x^2 + y^2 \leq 2$, then $x^4 + y^4 = 1$.

c) For all $a \in \mathbb{Z}$, if there exists $m \in \mathbb{Z}$ with $a = 5m$, then there exists $m \in \mathbb{Z}$ with $a = 10m$.