

Negation, again

Negate: $(x \rightarrow y) \wedge \neg x$

First Solution:

$$\begin{aligned} & \neg[(x \rightarrow y) \wedge \neg x] \\ \equiv & \neg(x \rightarrow y) \vee \neg\neg x \\ \equiv & \neg(\neg x \vee y) \vee x \\ \equiv & (\neg\neg x \wedge \neg y) \vee x \\ \equiv & (x \wedge \neg y) \vee x \\ \equiv & x \end{aligned}$$