

$$\begin{aligned}
\forall x. \exists y. P(x) \vee Q(y) &\equiv \forall x. (\exists y. P(x)) \vee (\exists y. Q(x)) \\
&\equiv \forall x. (P(x) \vee (\exists y. Q(x))) \\
&\equiv (\forall x. P(x)) \vee (\forall x. \exists y. Q(x)) \\
&\equiv (\forall x. P(x)) \vee (\exists y. Q(x))
\end{aligned}$$

So the FOL sentence is valid