3X. 3y. X < Y = 3y c < Y = c < d = { { { c < d } { } }																						
$= \exists Y \subset \langle Y \rangle$ $= \langle \langle d \rangle$ $= \{ \{ \{ \{ \{ \{ \{ \{ \{ \{ \{ \{ \{ \{ \{ \{ \{ \{ \{$																						
$= \langle \langle \langle \langle \rangle \rangle \rangle$ $= \langle \langle \langle \rangle \rangle$ $= \langle \rangle$	'E	X . :	JY.	X	< Y																	
			=	ΥE	ے	< Y																
$= \{ \{ \{ \{ \{ \{ \{ \} \} \} \} \} \}$ $= \{ \{ \{ \{ \{ \{ \} \} \} \} \} \}$ $= \{ \{ \{ \{ \{ \{ \} \} \} \} \} \}$ $= \{ \{ \{ \{ \{ \{ \} \} \} \} \} \}$ $= \{ \{ \{ \{ \{ \{ \} \} \} \} \} \}$ $= \{ \{ \{ \{ \{ \} \} \} \} \}$ $= \{ \{ \{ \{ \{ \} \} \} \} \}$ $= \{ \{ \{ \{ \{ \} \} \} \} \}$ $= \{ \{ \{ \{ \{ \} \} \} \} \}$ $= \{ \{ \{ \{ \{ \} \} \} \} \}$ $= \{ \{ \{ \{ \{ \} \} \} \} \}$ $= \{ \{ \{ \{ \{ \} \} \} \} \}$ $= \{ \{ \{ \{ \{ \} \} \} \} \}$ $= \{ \{ \{ \{ \{ \} \} \} \} \}$ $= \{ \{ \{ \{ \{ \} \} \} \} \}$ $= \{ \{ \{ \{ \{ \} \} \} \} \}$ $= \{ \{ \{ \{ \{ \} \} \} \} \}$ $= \{ \{ \{ \{ \{ \} \} \} \} \}$ $= \{ \{ \{ \{ \{ \} \} \} \} \}$ $= \{ \{ \{ \{ \{ \} \} \} \} \}$ $= \{ \{ \{ \{ \{ \} \} \} \} \}$ $= \{ \{ \{ \{ \{ \{ \} \} \} \} \}$ $= \{ \{ \{ \{ \{ \{ \} \} \} \} \}$ $= \{ \{ \{ \{ \{ \{ \} \} \} \} \}$ $= \{ \{ \{ \{ \{ \{ \} \} \} \} \}$ $= \{ \{ \{ \{ \{ \{ \} \} \} \} \}$ $= \{ \{ \{ \{ \{ \{ \} \} \} \} \}$ $= \{ \{ \{ \{ \{ \{ \} \} \} \} \}$ $= \{ \{ \{ \{ \{ \{ \} \} \} \} \}$ $= \{ \{ \{ \{ \{ \{ \} \} \} \} \}$ $= \{ \{ \{ \{ \{ \{ \} \} \} \} \}$ $= \{ \{ \{ \{ \{ \{ \{ \} \} \} \} \}$ $= \{ \{ \{ \{ \{ \{ \{ \{ \} \} \} \} \}$ $= \{ \{ \{ \{ \{ \{ \{ \} \} \} \} \}$ $= \{ \{ \{ \{ \{ \{ \{ \} \} \} \} \}$ $= \{ \{ \{ \{ \{ \{ \{ \} \} \} \} \}$ $= \{ \{ \{ \{ \{ \{ \{ \} \} \} \} \}$ $= \{ \{ \{ \{ \{ \{ \{ \{ \} \} \} \} \}$ $= \{ \{ \{ \{ \{ \{ \{ \{ \{ \{ \} \} \} \} \} \}$ $= \{ \{ \{ \{ \{ \{ \{ \{ \{ \} \} \} \} \} \}$ $= \{ \{ \{ \{ \{ \{ \{ \{ \{ \{ \{ \{ \{ \{ \{ \{ \{ \{ \{$			=	C	<	d																
$ \begin{aligned} \forall X &\exists Y &\times \langle Y \\ &= & \forall X. &\langle f(x) \\ &= & \{ \{ x < f(x) \} \} \} \end{aligned} $ $ \begin{aligned} \forall X &\neg (P(x) \land \forall Y. (\neg P(Y) \lor Q(Y))) \\ &= & \forall X. (\neg P(x) \lor \neg \forall Y. (\neg P(Y) \lor Q(Y))) \\ &= & \forall X. (\neg P(x) \lor \exists Y. \neg (\neg P(Y) \lor Q(Y))) \end{aligned} $ $ \begin{aligned} &= & \forall X. (\neg P(x) \lor \exists Y. \neg (\neg P(Y) \lor \neg Q(Y))) \\ &= & \forall X. (\neg P(x) \lor \exists Y. (\neg P(Y) \land \neg Q(Y))) \end{aligned} $ $ \begin{aligned} &= & \forall X. (\neg P(x) \lor \forall Y. (\neg P(X) \lor \neg Q(Y))) \\ &= & \forall X. (\neg P(x) \lor (\neg P(X) \lor \neg Q(Y))) \end{aligned} $ Forma Normal Prenexa $ \end{aligned} $ $ \begin{aligned} &= & \forall X. (\neg P(x) \lor (\neg P(x)) \land \neg Q(x)) \end{aligned} $ Forma Normal de Skolem $ \end{aligned} $							\															
$= \forall X. \ X < f(x)$ $= \{ \{ x < f(x) \} \} \}$ $\forall X. \neg (P(x) \land \forall Y. (\neg P(Y) \lor Q(Y)))$ $= \forall X. (\neg P(x) \lor \neg \forall Y. (\neg P(Y) \lor Q(Y)))$ $= \forall X. (\neg P(x) \lor \exists Y. \neg (\neg P(Y) \lor Q(Y)))$ $= \forall X. (\neg P(x) \lor \exists Y. (\neg P(Y) \land \neg Q(Y)))$ $= \forall X. (\neg P(x) \lor \exists Y. (\neg P(Y) \land \neg Q(Y)))$ Forma Normal Negada $= \forall X. \exists Y. (\neg P(x) \lor (P(Y) \land \neg Q(Y)))$ Forma Normal Prenexa $= \forall X. (\neg P(x) \lor (P(F(x)) \land \neg Q(F(x)))$ Forma Normal de Skolem $= \forall X. ((\neg P(x) \lor P(F(x))) \land (\neg P(x) \lor \neg Q(F(x)))$ $= \forall X. ((\neg P(x) \lor P(F(x))) \land (\neg P(x) \lor \neg Q(F(x)))$																						
$= \forall X. \ X < f(x)$ $= \{ \{ x < f(x) \} \} \}$ $\forall X. \neg (P(x) \land \forall Y. (\neg P(Y) \lor Q(Y)))$ $= \forall X. (\neg P(x) \lor \neg \forall Y. (\neg P(Y) \lor Q(Y)))$ $= \forall X. (\neg P(x) \lor \exists Y. \neg (\neg P(Y) \lor Q(Y)))$ $= \forall X. (\neg P(x) \lor \exists Y. (\neg P(Y) \land \neg Q(Y)))$ $= \forall X. (\neg P(x) \lor \exists Y. (\neg P(Y) \land \neg Q(Y)))$ Forma Normal Negada $= \forall X. \exists Y. (\neg P(x) \lor (P(Y) \land \neg Q(Y)))$ Forma Normal Prenexa $= \forall X. (\neg P(x) \lor (P(F(x)) \land \neg Q(F(x)))$ Forma Normal de Skolem $= \forall X. ((\neg P(x) \lor P(F(x))) \land (\neg P(x) \lor \neg Q(F(x)))$ $= \forall X. ((\neg P(x) \lor P(F(x))) \land (\neg P(x) \lor \neg Q(F(x)))$																						
$= \forall X. \ X < f(x)$ $= \{ \{ x < f(x) \} \} \}$ $\forall X. \neg (P(x) \land \forall Y. (\neg P(Y) \lor Q(Y)))$ $= \forall X. (\neg P(x) \lor \neg \forall Y. (\neg P(Y) \lor Q(Y)))$ $= \forall X. (\neg P(x) \lor \exists Y. \neg (\neg P(Y) \lor Q(Y)))$ $= \forall X. (\neg P(x) \lor \exists Y. (\neg P(Y) \land \neg Q(Y)))$ $= \forall X. (\neg P(x) \lor \exists Y. (\neg P(Y) \land \neg Q(Y)))$ Forma Normal Negada $= \forall X. \exists Y. (\neg P(x) \lor (P(Y) \land \neg Q(Y)))$ Forma Normal Prenexa $= \forall X. (\neg P(x) \lor (P(F(x)) \land \neg Q(F(x)))$ Forma Normal de Skolem $= \forall X. ((\neg P(x) \lor P(F(x))) \land (\neg P(x) \lor \neg Q(F(x)))$ $= \forall X. ((\neg P(x) \lor P(F(x))) \land (\neg P(x) \lor \neg Q(F(x)))$	\checkmark	'	7 y	Y	< \	,																
$ \begin{aligned} &= \left\{ \left\{ \left\{ \left($	V						()															
$ \begin{aligned} \forall X & \neg (P(x) \land \forall Y. (\neg P(Y) \lor Q(Y))) \\ &= \forall X. (\neg P(X) \lor \neg \forall Y. (\neg P(Y) \lor Q(Y))) \\ &= \forall X. (\neg P(X) \lor \exists Y. \neg (\neg P(Y) \lor Q(Y))) \\ &= \forall X. (\neg P(X) \lor \exists Y. (\neg P(Y) \land \neg Q(Y))) \\ &= \forall X. (\neg P(X) \lor \exists Y. (P(Y) \land \neg Q(Y))) \text{Forma Normal Negada} \\ &= \forall X. \exists Y. (\neg P(X) \lor (P(Y) \land \neg Q(Y))) \text{Forma Normal Prenexa} \\ &= \forall X. (\neg P(X) \lor (P(F(X)) \land \neg Q(F(X))) \text{Forma Normal de Skolem} \\ &= \forall X. ((\neg P(X) \lor P(F(X))) \land (\neg P(X) \lor \neg Q(F(X))) \end{aligned} $																						
$= \forall X. (\neg P(x) \lor \neg \forall Y. (\neg P(Y) \lor Q(Y)))$ $= \forall X. (\neg P(x) \lor \exists Y. \neg (\neg P(Y) \lor Q(Y)))$ $= \forall X. (\neg P(x) \lor \exists Y. (\neg P(Y) \land \neg Q(Y)))$ $= \forall X. (\neg P(x) \lor \exists Y. (P(Y) \land \neg Q(Y)))$ Forma Normal Negada $= \forall X. \exists Y. (\neg P(x) \lor (P(Y) \land \neg Q(Y)))$ Forma Normal Prenexa $= \forall X. (\neg P(x) \lor (P(x)) \land \neg Q(x)))$ Forma Normal de Skolem $= \forall X. (\neg P(x) \lor (P(x)) \lor \neg Q(x)))$ $= \forall X. (\neg P(x) \lor P(x)) \land (\neg P(x) \lor \neg Q(x)))$			=	<u>ረ</u> ቲ ነ	x <	+(X	152															
$= \forall X. (\neg P(x) \lor \neg \forall Y. (\neg P(Y) \lor Q(Y)))$ $= \forall X. (\neg P(x) \lor \exists Y. \neg (\neg P(Y) \lor Q(Y)))$ $= \forall X. (\neg P(x) \lor \exists Y. (\neg P(Y) \land \neg Q(Y)))$ $= \forall X. (\neg P(x) \lor \exists Y. (P(Y) \land \neg Q(Y)))$ Forma Normal Negada $= \forall X. \exists Y. (\neg P(x) \lor (P(Y) \land \neg Q(Y)))$ Forma Normal Prenexa $= \forall X. (\neg P(x) \lor (P(x)) \land \neg Q(x)))$ Forma Normal de Skolem $= \forall X. (\neg P(x) \lor (P(x)) \lor \neg Q(x)))$ $= \forall X. (\neg P(x) \lor P(x)) \land (\neg P(x) \lor \neg Q(x)))$																						
$= \forall X. (\neg P(x) \lor \neg \forall Y. (\neg P(Y) \lor Q(Y)))$ $= \forall X. (\neg P(x) \lor \exists Y. \neg (\neg P(Y) \lor Q(Y)))$ $= \forall X. (\neg P(x) \lor \exists Y. (\neg P(Y) \land \neg Q(Y)))$ $= \forall X. (\neg P(x) \lor \exists Y. (P(Y) \land \neg Q(Y)))$ Forma Normal Negada $= \forall X. \exists Y. (\neg P(x) \lor (P(Y) \land \neg Q(Y)))$ Forma Normal Prenexa $= \forall X. (\neg P(x) \lor (P(x)) \land \neg Q(x)))$ Forma Normal de Skolem $= \forall X. (\neg P(x) \lor (P(x)) \lor \neg Q(x)))$ $= \forall X. (\neg P(x) \lor P(x)) \land (\neg P(x) \lor \neg Q(x)))$,														
$= \forall X. (\neg P(x) \lor \exists Y. \neg (\neg P(Y) \lor Q(Y)))$ $= \forall X. (\neg P(x) \lor \exists Y. (\neg P(Y) \land \neg Q(Y)))$ $= \forall X. (\neg P(x) \lor \exists Y. (P(Y) \land \neg Q(Y))) \text{Forma Normal Negada}$ $= \forall X. \exists Y. (\neg P(x) \lor (P(Y) \land \neg Q(Y))) \text{Forma Normal Prenexa}$ $= \forall X. (\neg P(x) \lor (P(F(x)) \land \neg Q(F(x)))) \text{Forma Normal de Skolem}$ $= \forall X. (\neg P(x) \lor P(F(x))) \land (\neg P(x) \lor \neg Q(F(x))))$ $= \forall X. (\neg P(x) \lor P(F(x))) \land \forall X. (\neg P(x) \lor \neg Q(F(x)))$	Y :		.																			
$= \forall X. (\forall P(x) \lor \exists y. (\forall P(y) \land \forall Q(y)))$ $= \forall X. (\forall P(x) \lor \exists y. (P(y) \land \forall Q(y))) \text{Forma Normal Negada}$ $= \forall X. \exists Y. (\forall P(x) \lor (P(Y) \land \forall Q(Y))) \text{Forma Normal Prenexa}$ $= \forall X. (\forall P(x) \lor (P(F(x)) \land \forall Q(F(x)))) \text{Forma Normal de Skolem}$ $= \forall X. ((\forall P(x) \lor P(F(x))) \land (\forall P(x) \lor \forall Q(F(x))))$ $= \forall X. (\forall P(x) \lor P(F(x))) \land \forall X. (\forall P(x) \lor \forall Q(F(x)))$					`																	
= $\forall X. (\neg P(x) \lor \exists Y. (P(Y) \land \neg Q(Y)))$ Forma Normal Negada = $\forall X. \exists Y. (\neg P(x) \lor (P(Y) \land \neg Q(Y)))$ Forma Normal Prenexa = $\forall X. (\neg P(x) \lor (P(F(x)) \land \neg Q(F(x))))$ Forma Normal de Skolem = $\forall X. ((\neg P(x) \lor P(F(x))) \land (\neg P(x) \lor \neg Q(F(x))))$ = $\forall X. (\neg P(x) \lor P(F(x))) \land \forall X. (\neg P(x) \lor \neg Q(F(x)))$			5	√X.	(7))(x)	V	ΞY	7r)1	(y)	√ G	γ(Y)))									
= $\forall x$. $\exists y$. $(\neg P(x) \lor (P(y) \land \neg Q(y)))$ Forma Normal Prenexa = $\forall x$. $(\neg P(x) \lor (P(F(x)) \land \neg Q(F(x))))$ Forma Normal de Skolem = $\forall x$. $((\neg P(x) \lor P(F(x))) \land (\neg P(x) \lor \neg Q(F(x))))$ = $\forall x$. $(\neg P(x) \lor P(F(x))) \land \forall x$. $(\neg P(x) \lor \neg Q(F(x)))$			2	∀ <i>x</i> .	(7)	P(x)) V	YE.	ן דר))(A)	٨٦	Q(Y)))									
= $\forall X. (\neg P(x) \lor (P(F(x)) \land \neg Q(F(x))))$ Forma Normal de Skolem = $\forall X. ((\neg P(x) \lor P(F(x))) \land (\neg P(x) \lor \neg Q(F(x))))$ = $\forall X. (\neg P(x) \lor P(F(x))) \land \forall X. (\neg P(x) \lor \neg Q(F(x)))$			2	∀ <i>X</i> .	(7)	P(x)	V	YE.	(P(Y) /	\ 7G	(Y)))	,	For	ya.	Nori	Ma)	Neq	ada		
$= \forall x. ((\neg P(x) \lor P(F(x))) \land (\neg P(x) \lor \neg Q(F(x))))$ $= \forall x. (\neg P(x) \lor P(F(x))) \land \forall x. (\neg P(x) \lor \neg Q(F(x)))$:	=	∀ ×.	ΒY.	(7P	(x)	v (1) (Y)	۸ 7	Q(Y	")			For	Ma	Nor	mal	Pre	enexo	.	
= \(\frac{1}{2} \cdot \c		:	=	∀X.	(7)	(x)	v (1	>(£(×))	N 7() 7) 9	×))))		Fori	Ma	Nori	na)	de	Skol	em	
			=	∀ ×.	((7	XXq) v	7)9	(x))) /	(7P	(x)	ر ک	Q(t	(x))))						
			=	∀ Χ.	۲۶)	(x)	v P(£(X)))	Λ þ	′χ. (7P(x) 🗸	7 Q	(£(x)))						
																	Ma	()	aus	al		
				4					, ,		,											

```
JX. YY. (P(x,y) , Q(x) , ¬R(y))
                 = \forall Y (P(C,Y) \wedge Q(C) \wedge \neg R(Y))
                 = \forall y. P(c, y) \wedge \forall y. Q(c) \wedge \forall y. 7R(y)
                 = \{\{P(C,Y)\}\}, \{Q(C)\}, \{\neg R(Y)\}\}
 YX (P(x) , JY. (Q(y) , YE. 3W. (P(z) , 7Q(w))))
                 = YX. JY. (P(x) , (Q(Y) , YEJW. (P(3) , -Q(W))))
                 = \forall x \exists y \forall z (P(x) \wedge (R(y) \vee \exists w . (P(z) \wedge \neg R(w))))
                 = YX. YZ (P(x) / (Q(f(x)) / (P(Z) / JQ(Q(x,Z)))))
                = YX. YZ. (P(x) \ (Q(f(x)) \ P(Z)) \ (Q(f(x)) \ \ \ Q(g(x,z))))
                = \forall x. \forall z. \forall (x) \lambda \forall x. \forall z. \lambda (\forall (x,z)) \lambda \forall x. \forall z. \lambda \forall x. \forall x. \forall z. \lambda \forall x. \forall z. \lambda \forall x. 
                = { {P(x)}, {Q(F(x)), P(z)}, {Q(F(x)), 7Q(Q(x,z))} }
```