	Homework S
	1. P=>7Q, Q=>1P
	(1PV7Q) (1QV7P)
V	P Q P ⇒ 1Q Q ⇒ 1P
	TTF Since the truth table shows
	TFTT The same values for both sentences
	FTTT T for all values of Pand Q, the
	FFF T Sentences are equivalent.
(**)	
	$P \Leftrightarrow Q ((P \land Q) \lor (P \land Q))$
en e	(7Pv Q) (QVP)
112	P Q P⇒7Q 7Q⇒P P⇔7Q P^1Q 1P^Q ((P^7Q)V(7P^Q))
	TTFFFFF
	T F T T T T T
	FTTTTTTT
and the same of th	FFTFFFF
The second second	The forth table shows that the sentences are equivalent.
and the second and t	2. · (Smoke => Fire) => (7 Smoke => 7 Fire)
	("Smoke V Fire) (Smoke V "Fire)
	Smoke Fire Smoke => Fire Tsmoke => Fire (Smoke => Fire) => (75moke => 7Fire)
all algorithms to the desired supplement of the state of the supplement of the state of the stat	
	TTTT
	F
	FIFITITI
	This sentence is neither valid not unsatisfiable since it holds in some worlds
	but not others.

								1		
	· (Smoke => Fire) => ((Smoke V Heat) => Fire)									
	(15 molec V Fire) (1 (Smoke v Heat) v Fire)									
	Smoke	Fire	Hert						(Sinde = Fire) = ((Sinde utled) = Fire	
	T	T	T	T		T	T		T	
	T	T	F	4 t		T		T		
	P	F	T	F		F		T		
**	T	F	F	F		F		T		
	F	T	T	T		T		T		
	F	IT	F	T		T		T		
	F	F	T	Т		F	F		F	
	F	1	F	T		I	T		T	
	This se	ntence	is neal	er valid	not an	satisfable since	e it	holds in some	worlds	
	but no					-1	1	Y - 1		
	· ((Sinde	e 1 Hear	t)⇒Fre)⇔((s	inde => F	ire) v (Hent =) f	me))	T		
3		(6	nH)VF)	(-SVF) ((HVF)					
	SF	H (S	M)=F	SPF	HPF	(S>F) v(H>F)	((51	H)⇒F)⇔((S⇒	F)V(H⇒F))	
	TIT	T	T	T	T	T		T		
	TT	F	F	F	F	W.F.	14,	T		
	TF	T	Ī	a T	T	T		T		
	TF	F	T	F	T	T		T		
	FT	T	1	T	T	T		T		
1	FT	F	T	T	F	T		T		
	FF	T	T	T	T	T		T		
	FF	F	T	T	T	T	- Aller	T		
	Since -	this s	entence	holds	for all	worlds, it	is 109	lid ?		
						, al.				
								į.	305	
							era er Pagil grunn mannet som de syden			
								-		
	 									

	Homework 5
	3. a) Abbreviations: My-mythical, Mo-mortal, Ma-mammal, Mag-magical
1	H-honed.
	Knowledge base: 1. My=>7Mo
	$2.7My \Rightarrow Mo^{Ma}$
	3. (1MoVMa) ⇒ H
	4. H => Mag
	b) 1. My v Mo
	2. Myv(Mo^Ma) -> (Myv Mo)^ (Myv Ma)
	3.7(MoVMa)VH ->(MoMMa)VH ->(MOVH)^(MAVH)
	4. THV May
	(NF: (^Myv^Mo)^(MyvMo)^(MyvMa)^(MovH)^(^MavH)^(^HvMa
	c) We stort by listing all the clanics in the CNF.
	1.7My V7Mo
	2. My V Mo
	3. My v Ma
	4. Mov H
y	5. MavH
	6. 1H V My
-	Then we can use resolution while negating horsed, major, and mythical.
	1. "Mov Ma (1,3)
	8.7MovH (5,7)
	9 H (4,8)
	10. Mag (6,9)
	11. 7H (Assuming negation of homed)
	12-7 Mag (assuring negation of magical)
Was an analysis of the same state of the same st	13. empty clarse (9,11)
	14 empty clause (10,12)
	15. My (assuming negation of mythical)
	16. Mo (2,15)
	17. Ma (3,15)

	The two contradictions Show that the unicom is majical and horned.
	The two contradictions Show that the unicom is majical and horned. Since no contradiction can be found for My, whether the unicom
	is mythical causet be proved.
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3 100	
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