Problem set 5,6	Graded
Student	
Total Points 98 / 100 pts	
Question 1 Exercise 3.1.7d	4 / 4 pts
The rubric is hidden for this question.	
Question 2	
Exercise 3.1.10	4 / 4 pts
The rubric is hidden for this question.	
Question 3	
Exercise 3.1.12	4 / 4 pts
The rubric is hidden for this question.	
Question 4	
Exercise 3.1.16b	4 / 4 pts
The rubric is hidden for this question.	
Question 5	
Exercise 3.1.18c	4 / 4 pts
The rubric is hidden for this question.	
Question 6	
Exercise 3.1.18d	4 / 4 pts
The rubric is hidden for this question.	
Question 7	
Exercise 3.1.22b	4 / 4 pts
The rubric is hidden for this question.	

Exercise 3.1.23b	4 / 4 pts
The rubric is hidden for this question.	17.100
The rubite is modern for this question.	
Question 9	
Exercise 3.1.33c	4 / 4 pts
The rubric is hidden for this question.	
Question 10	
Exercise 3.1.33d	4 / 4 pts
The rubric is hidden for this question.	
Question 11	
Exercise 3.2.10	4 / 4 pts
The rubric is hidden for this question.	
Question 12	
Exercise 3.2.15	6 / 6 pts
12.1 b	2 / 2 pts
The rubric is hidden for this question.	
12.2 d	2 / 2 pts
The rubric is hidden for this question.	
12.3 e	2 / 2 pts
The rubric is hidden for this question.	
Question 13	
Exercise 3.2.19	2 / 4 pts
The rubric is hidden for this question.	
Question 14	

Question 15

Exercise 3.2.42 4 / 4 pts

The rubric is hidden for this question.

Question 16 Exercise 3.3.10 4 / 4 pts 16.1 b 1 / 1 pt The rubric is hidden for this question. 16.2 d 1 / 1 pt The rubric is hidden for this question. 1 / 1 pt 16.3 e The rubric is hidden for this question. 16.4 f 1 / 1 pt The rubric is hidden for this question. **Question 17** Exercise 3.3.21 6 / 6 pts 17.1 C 2 / 2 pts The rubric is hidden for this question. 17.2 d 2 / 2 pts The rubric is hidden for this question. 17.3 e 2 / 2 pts The rubric is hidden for this question. **Question 18** Exercise 3.3.35a 4 / 4 pts The rubric is hidden for this question. **Question 19** Exercise 3.3.35b 4 / 4 pts The rubric is hidden for this question. Question 20 Exercise 3.3.36a **5** / 5 pts The rubric is hidden for this question.

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()H	estion	21

Exercise 3.3.36b 5 / 5 pts

The rubric is hidden for this question.

Question 22

Exercise 3.4.11 5 / 5 pts

The rubric is hidden for this question.

Question 23

Exercise 3.4.14 5 / 5 pts

The rubric is hidden for this question.

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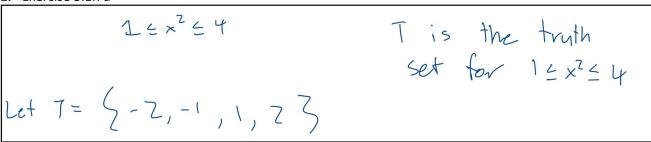
My answers came in part or in full from the following sources

Put your answer in each indicated box. Answers must be handwritten, legible and use correct notation.

Be sure to study the answers in Appendix A to similar problems so you know what your approach should be.

Larger boxes indicate that you are expected to provide substantial detail.

1. Exercise 3.1.7d



2. Exercise 3.1.10

$$\frac{1-1}{1} = \frac{0}{1} = 0$$

3. Exercise 3.1.12

4. Exercise 3.1.16b

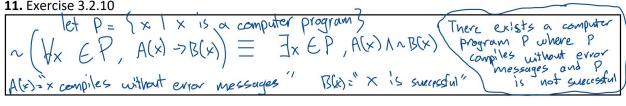
5. Exercise 3.1.18c

$$\forall s \in D, C(s) \rightarrow \sim E(s)$$

6. Exercise 3.1.18d

$$\exists_s \in D \ni (M(s) \land C(s))$$

7. Exercise 3.1.22b	
Va EA, P >> P(x)	A = valid arguments P = true premises
	P= true premises P(x) = x has a true conclusion
8. Exercise 3.1.23b	
() HXED, C(x) -> 5(x)	D= students ((x)="xis a computer student"
(2) Ha ED, nC(a) V S(a)	D= students ((x)="xis a computer Science Student" S(x)="x need to take data structures"
	data structures "
9. Exercise 3.1.33c	
True	
10. Exercise 3.1.33d	
r, accbd	let a = -1 b = 0
tulse acb and	$CLd \int Cz-7 dz 10$ $ac=2 bd=0$
counteresan	$ac = 2 \qquad bd = 0$ $ac > bd$
	ac > bd
11. Exercise 3.2.10	298 AM 3
The let $P = \{x \mid x \text{ is a computer product} \}$ $A(x) \rightarrow B(x) \equiv \exists x \in A(x) \Rightarrow A(x) \Rightarrow B(x) \equiv A(x) \Rightarrow B(x) \Rightarrow B$	P A(x) A r B(x) program P where P
	messages and P



12. Exercise 3.2.15 (d)

13. Exercise 3.2.19 In E Z > (ACN) A B(N) A C(N)

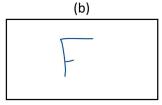
14. Exercise 3.2.25b

Converse: If I'm is even, is any odd intryer (ounterexample: m=2 7 is even 7(2)=4

15. Exercise 3.2.42

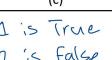
If you obtained a master's degree, then you passed comprehensive exam

16. Exercise 3.3.10 (answer T or F)



(f)

17. Exercise 3.3.21 (answer T or F)



1 is True 1 is True 2 is false 2 is True

1 is False 2 is False

18. Exercise 3.3.35a

Everybody trusts somebody Let P= {x|x is a person}, Let T(x,y)="x trusts y"

VXEP, JyEP > T(x,y)

19. Exercise 3.3.35b

20. Exercise 3.3.36a

Somebody trusts everybody Let
$$P = \{x \mid x \text{ is a person}\}$$

 $\exists_x \in P \ni \forall_y \in P, T(x,y) = x \text{ trusts } y''$

21. Exercise 3.3.36b

$$\Lambda\left(\exists x \in P \ni \forall y \in P, T(x,y)\right) \quad \text{Let} \quad P = \langle x \mid x \text{ is a Person } \rangle \\
\Lambda\left(\exists x \in P \ni \forall y \in P, T(x,y)\right) \quad \text{Let} \quad T(x,y) = "x \text{ trusts } y" \\
\forall x \in P, \forall y \in P, T(x,y)\right)$$

$$\forall x \in P, \exists y \in P \ni \Lambda T(x,y)$$

22. Exercise 3.4.11

The argument is invalid because of the converse error.

23. Exercise 3.4.14

The argument is invalid because of the inverse error.