

Determine the truth value of each of the following statements if the domain consists of:

1	$\forall x$	(x^2)	\geq	0)
				,

$$\exists x(x^3 = -1)$$

$$\forall x((-x)^2 = x^2)$$

$$\exists n(n^2 = 2)$$

5
$$\forall x(x^2 + 2 \ge 1)$$

6
$$\forall x(x^2 \neq x)$$

$$\forall x(2x > x)$$

$$\exists n(n=-n)$$

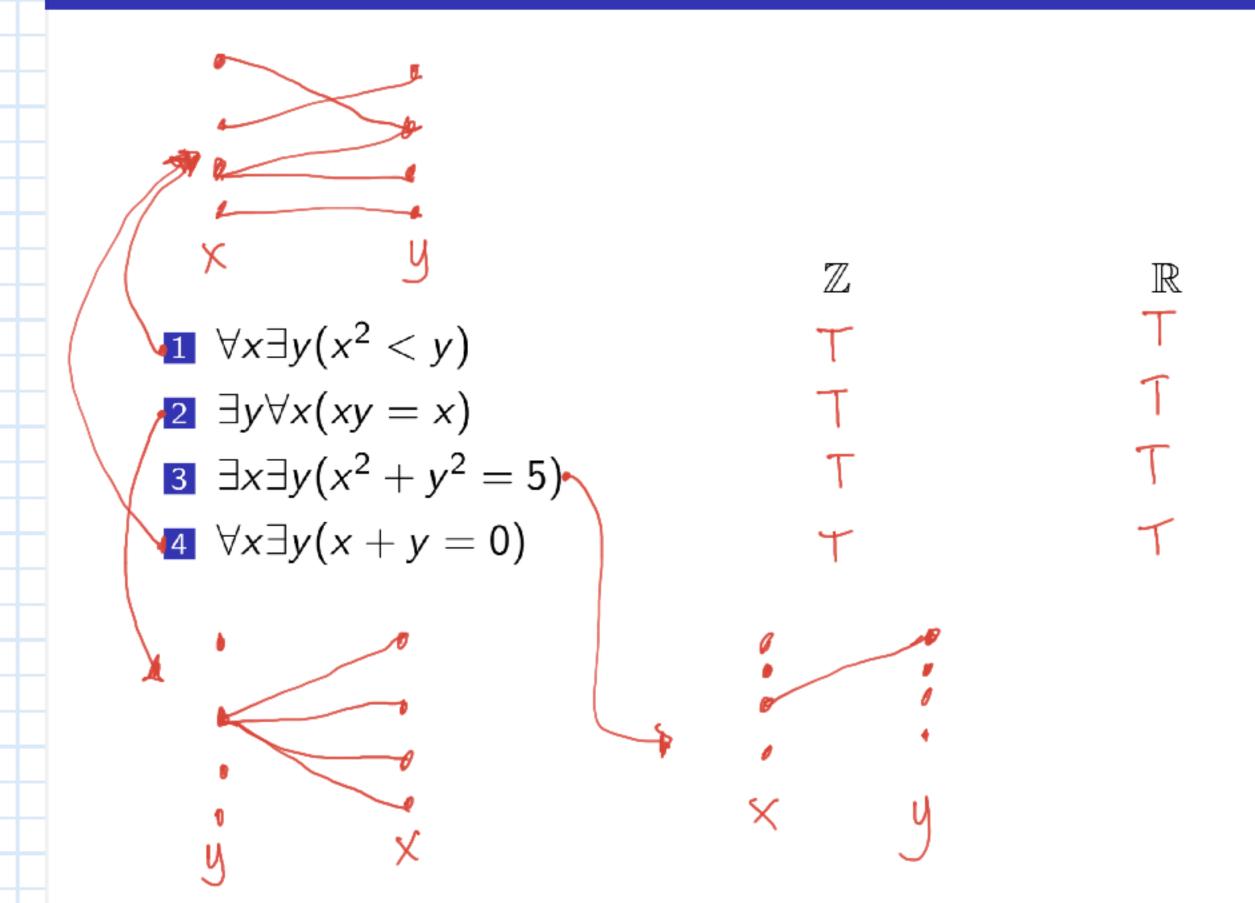
$$∃ n(2n = 3n)$$

$$\forall x(x>0 \lor x<0)$$

F, x = 0

F,x=0

Determine the truth value of each of the following statements if the domain consists of:



Translate the paragraph to logical expressions.

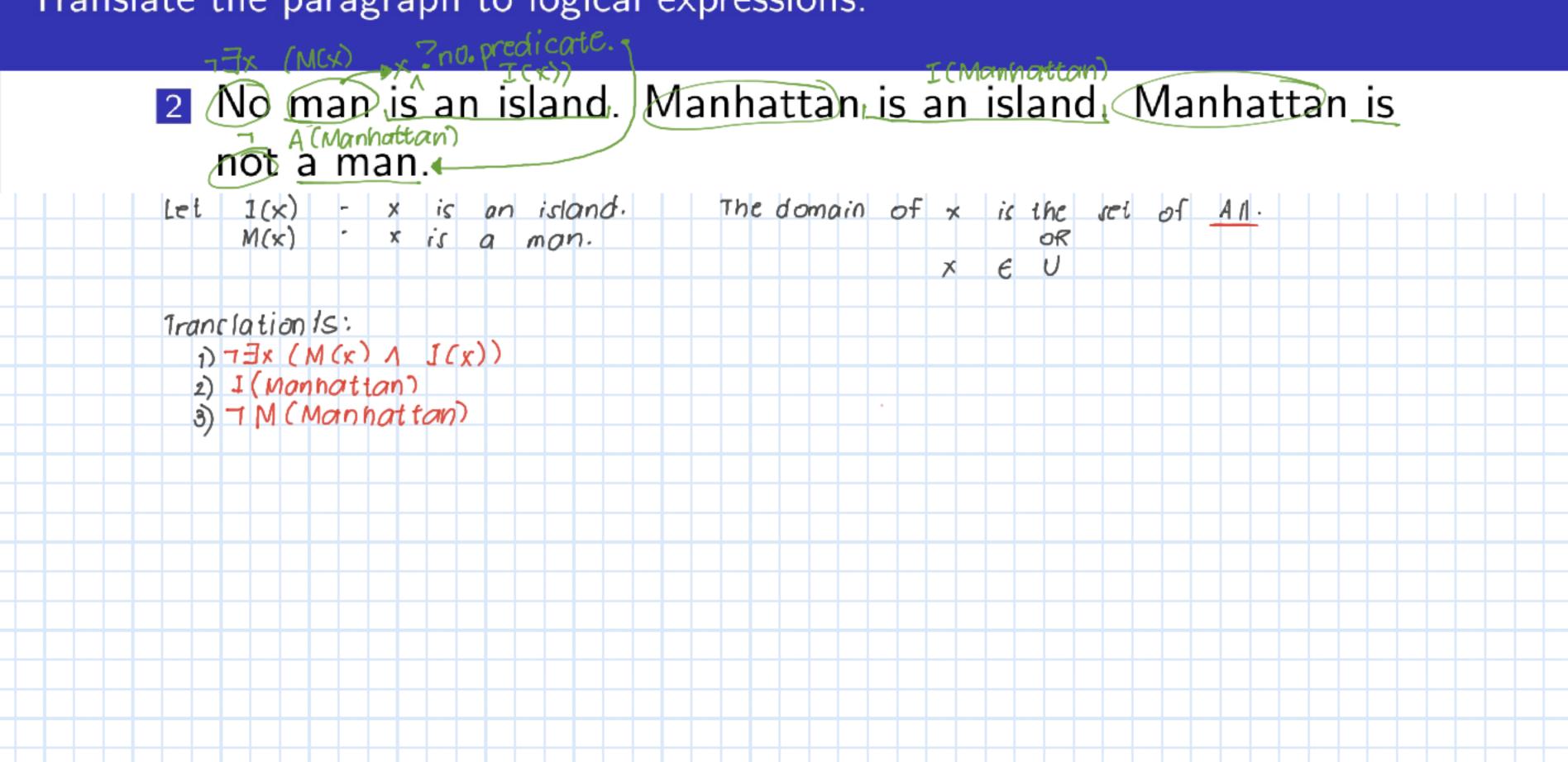
- Randy works hard. If Randy works hard, then he is a dull boy. If Randy is a dull boy, he will get the job. Randy did not get the job.
- No man is an island. Manhattan is an island. Manhattan is not a man.
- 3 All men are mortal. Socrates is a man. Socrates is mortal.
- Someone in this class enjoys whale watching. Every person who enjoys whale watching cares about ocean pollution. There is a person in this class who cares about ocean pollution.
- Each of the 93 students in this class owns a personal computer. Everyone who owns a personal computer can use a word processing program. Zeke, a student in this class, can use a word processing program.

Translate the paragraph to logical expressions.

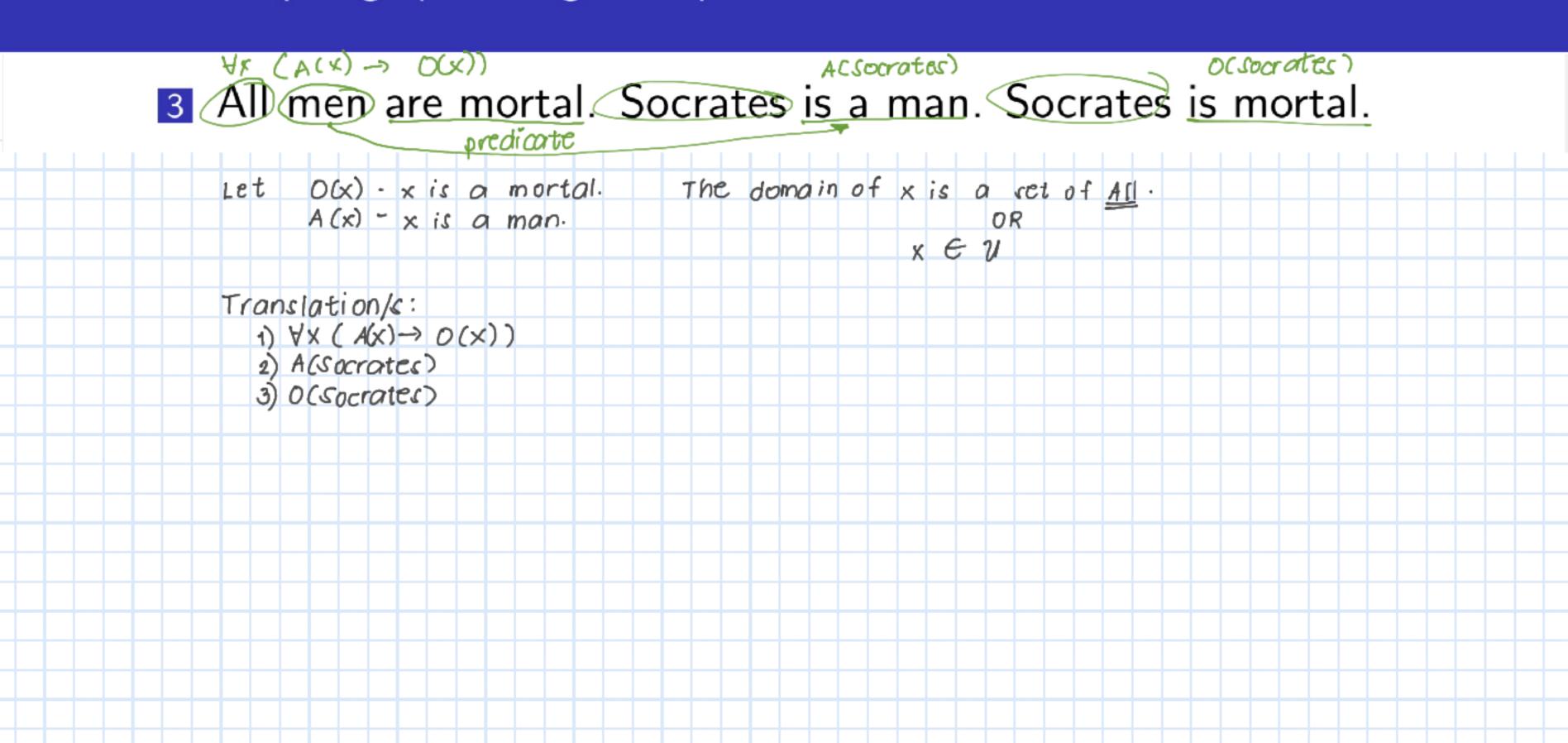
Randy works hard. If Randy works hard, then he is a dull boy of Randy is a dull boy, he will get the job. Randy did not get the job.

Let W(x) - x	works hard.	The domain of x is	inc set of	persons.
D(X) - X	is a dull boy.			
G(x) - x	gets the job.			
Translation 15:				
1) W (Randy)				
2) W (Randy) - 3) D (Randy) - 4) 7 G (Randy	→ D(Randy)			
3) D (Randy) -	> G(Randy)			
4) 16 (Răndi	4)			
Let w - f	Randy works hard. Randy is a dull boy- Randy gets the job-	Translation 15:		
d - t	Randy is a dull boy-	i) W		
q - f	Pandy gets the job.	$(2) \omega \rightarrow d$		
		3) d -> q		
		4) 79		

Translate the paragraph to logical expressions.



Translate the paragraph to logical expressions.



Translate the paragraph to logical expressions.

Someone in this class enjoys whale watching Every person who enjoys whale watching cares about ocean pollution. There is a person in this class who cares about ocean pollution.

Let: (CX) - x is in	this class.	The domain o	f x is set	of pasons.
$\omega(x) - x enjq$ $0(x) - x cores$	this class. ys whale watching about ocean poslution.			
Translation/s:				
Translation/s: i) = x(c(x) n w(x))				
$2) \forall x (w(x) \rightarrow o(x))$				
2) \forall \times \langle \times \tim)			

Exercise 3 Translate the paragraph to logical expressions.

Each of the 93 students in this class owns a personal computer. Everyone who owns a personal computer can use a word processing program. Zeke, a student in this class, can use a word processing program.

(C(X)

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Let: C(x) - x is a student in this class.

P(x) - x owns a personal computer.

W(x) - x can use a word processing program.

Translations:

i) \forall x(C(x) \rightarrow P(x))

2) \forall x(P(x) \rightarrow W(x))

3) C(Ztkt)

4) W(Zekt)

V(Zekt)

V(X) \rightarrow P(X)

V(X) \rightarrow P(X)
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