

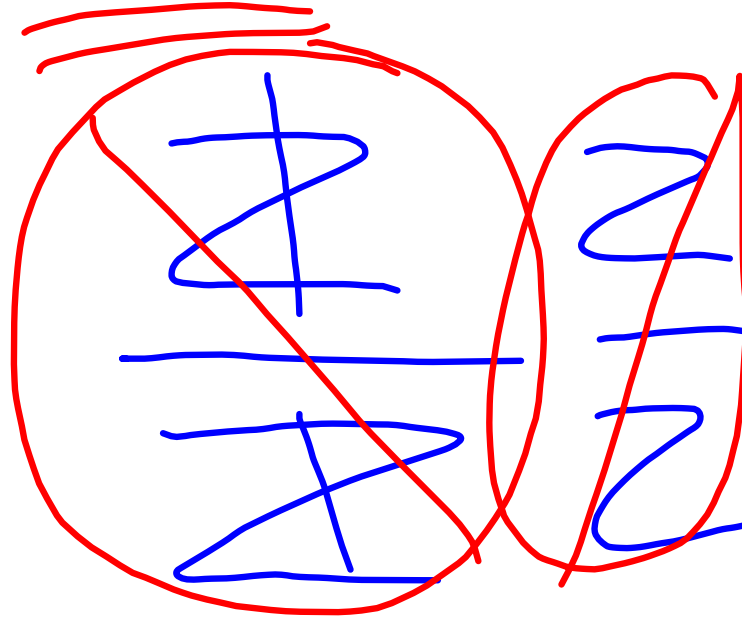
N

W

Z

R

Q



3.  $Z \rightarrow \{\dots, -2, -1, 0, 1, 2, \dots\}$

4.  $R \rightarrow \{\dots, -2, -1, 0, 1, \dots\}$

You MUST show your work to get credit.

14. Truth Value of Question 11:

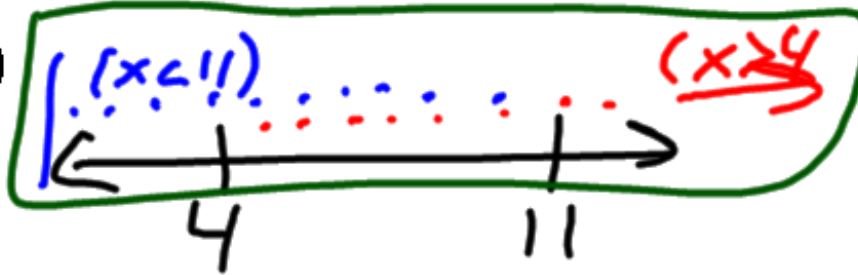
$$P \vee R = F \vee F = \underline{\underline{F}}$$

16. Truth Value of Question 13:  $\sim(q \vee r) = \sim(T \vee F) = \sim(T) = \underline{\underline{F}}$

YOU MUST SHOW YOUR WORK TO GET CREDIT.

a)  $(x < 11) \vee (x > 4)$

or  
union



W

b)  $(y > 7) \wedge (y \leq 4)$

and  
intersection



$\emptyset$

2.7 Complete the following truth table. Circle the symbols

$p$	$q$	$\sim q$	$(p \wedge \sim q)$	$q \wedge (p \wedge \sim q)$
T	T	F	F	F
T	F	T	T	F
F	T	F	F	F
F	F	T	F	F

21. Complete the Truth Table. Careful of the symbols!

$x$	$u$	$\sim x$	$\sim u$	$(u \wedge \sim x)$	$(\sim u \wedge x)$	$(u \wedge \sim x) \vee (\sim u \wedge x)$
T	T	F	F	F	F	F
T	F	F	T	F	T	T
F	T	T	F	T	F	T
F	F	T	T	F	F	F