

## Problem 9.1

Part a

Part b

## Problem 9.2

Part a

X	Y	Z	$(x + y)((x + z)) + (x + z)$
T	T	T	
T	T	F	
T	F	T	
T	F	F	
F	T	T	
F	T	F	
F	F	T	
F	F	F	

Part b

X	Y	Z	$(x + y) + ((x + z) + (x + z))$
T	T	T	
T	T	F	
T	F	T	
T	F	F	
F	T	T	
F	T	F	
F	F	T	
F	F	F	

Part c

The approach of trying every possible combination **true/false** value in the expression does generalize to an unbounded number of variables. This is an incredibly inefficient algorithm that has a running time of  $O(2^n)$  where  $n$  is the number of variables in the expression.