Use the information below:

I'm going to the store to buy some CD's and some DVD's. DVD's cost $12 each and CD's cost $8 each. I have room for no more than three CD's in my collection. I can spend no more than $48 at the store.

1. Define variables and write four inequalities to represent all the constraints in this situation.

2. Find at least 5 combinations of CD's and/or DVD's that meet all of these constraints.

$C = \#$ CD's bought

$D = \#$ DVD's bought

$C \geq 0$ $8C + 12D \leq 48$

$D \geq 0$ $C \leq 3$

2. Find at least 5 combinations of CD's and/or DVD's that meet all of these constraints.

There are 15 possible combinations of CD's and/or DVD's that meet all constraints.

Given as ordered pairs (C, D):

$(0,0)$ $(1,0)$ $(2,0)$ $(3,0)$ $(0,1)$ $(1,1)$ $(2,1)$ $(3,1)$

$(0,2)$ $(1,2)$ $(2,2)$ $(3,2)$ $(0,3)$ $(1,3)$ $(0,4)$