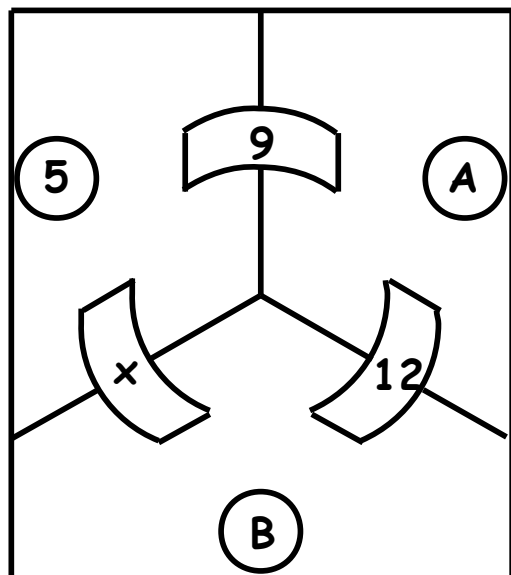
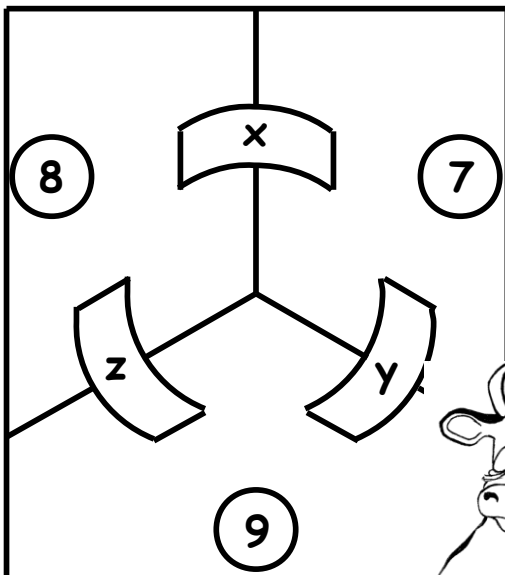
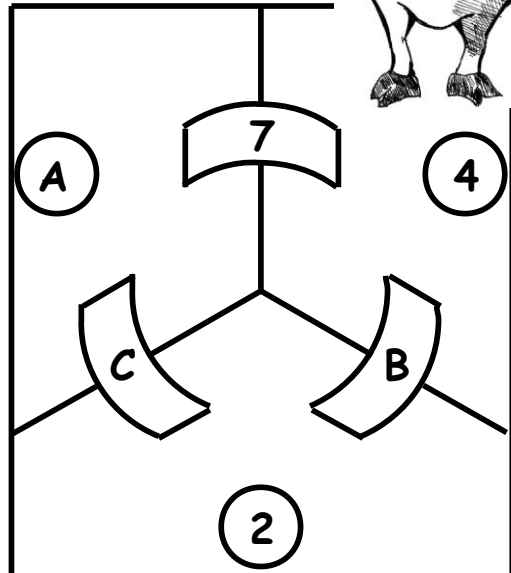
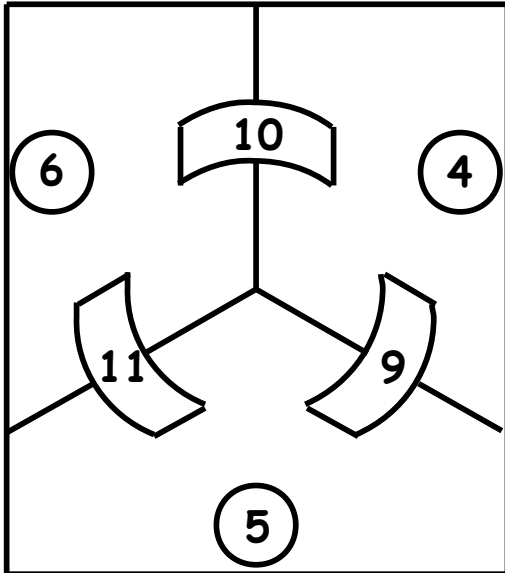
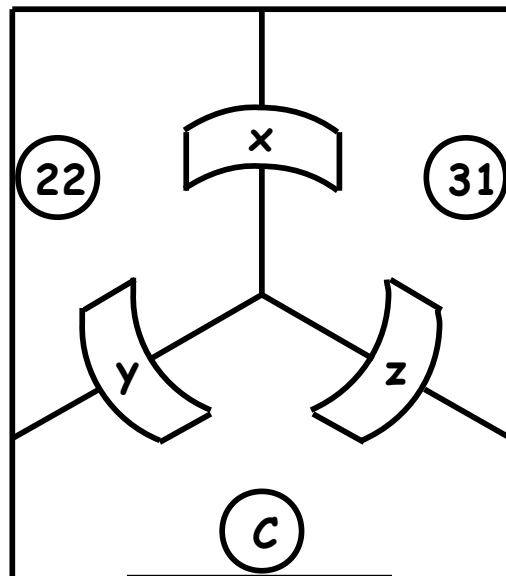
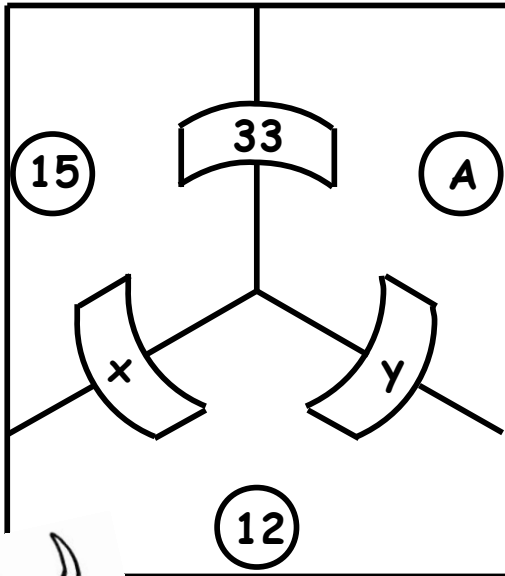


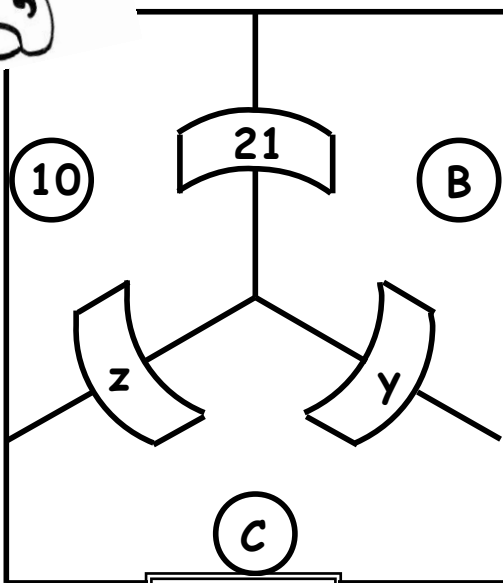
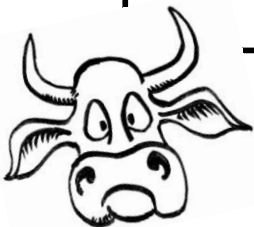
In the following diagrams, the number on each bridge is the **sum** of the numbers of cows in each of the adjoining fields. Pasture one has been completed. Find all of the unknown values. I.#1



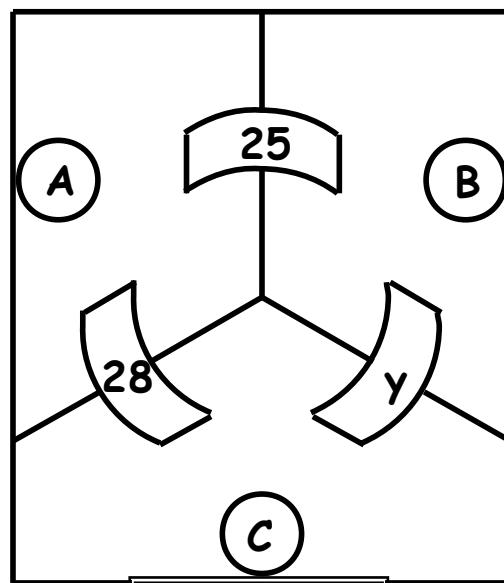
In the following diagrams, the number on each bridge is the **sum** of the numbers of cows in each of the adjoining fields. Find all of the unknown values. I.#2



$$x + y + z = 140$$

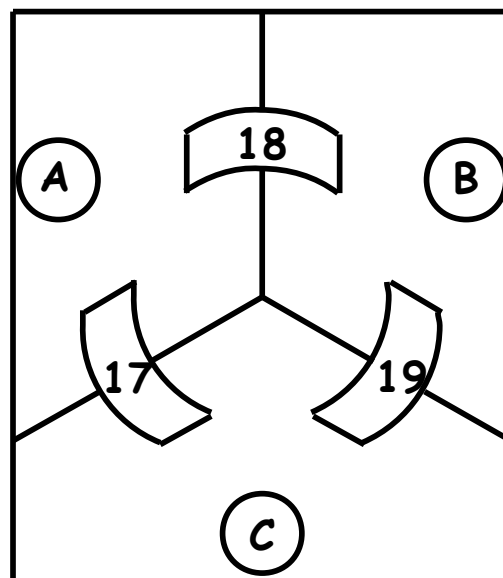
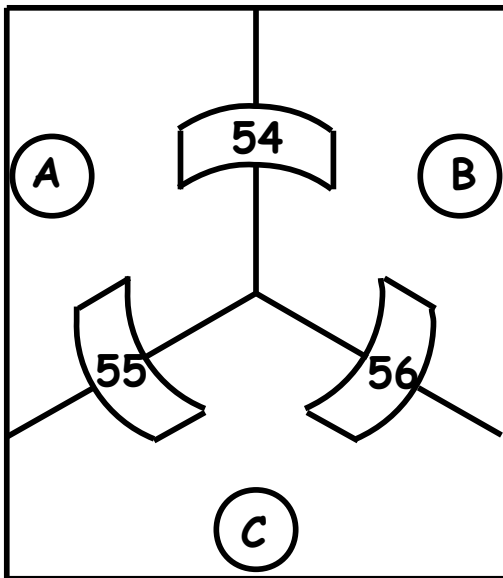
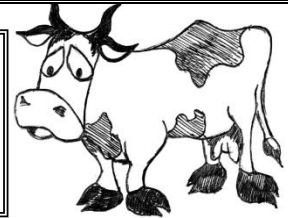


$$y + z = 45$$



$$A + B + C = 38$$

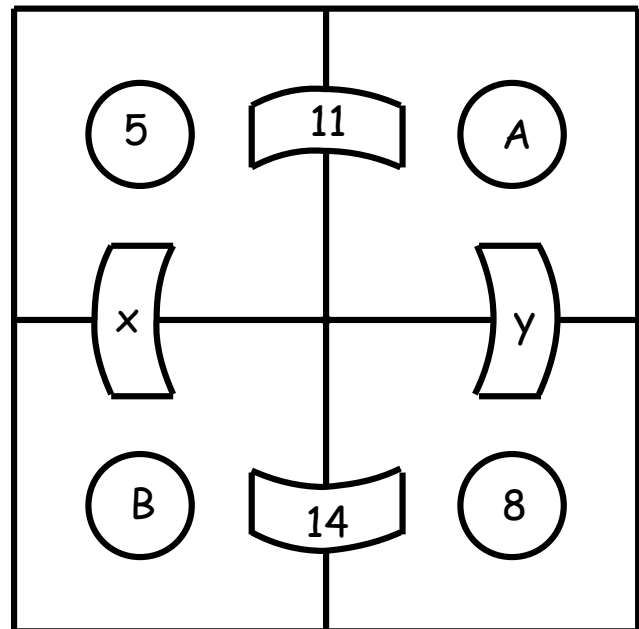
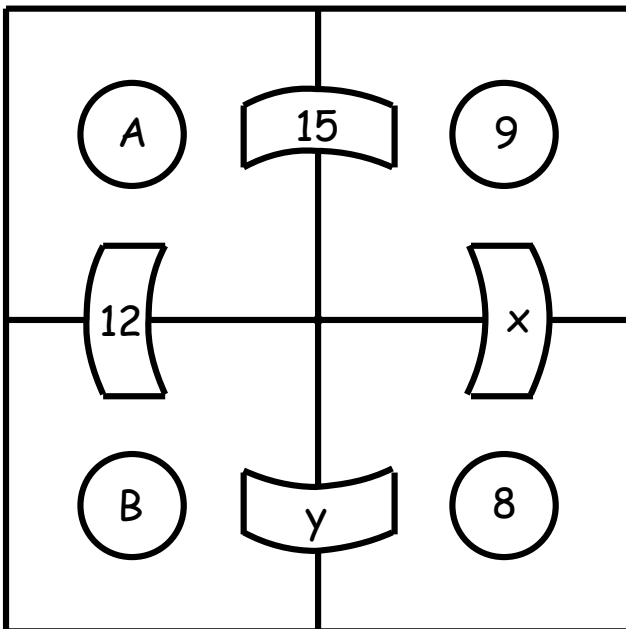
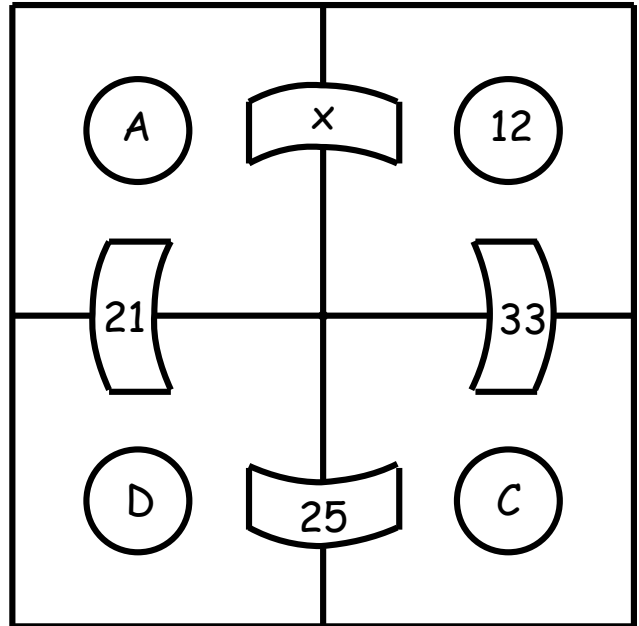
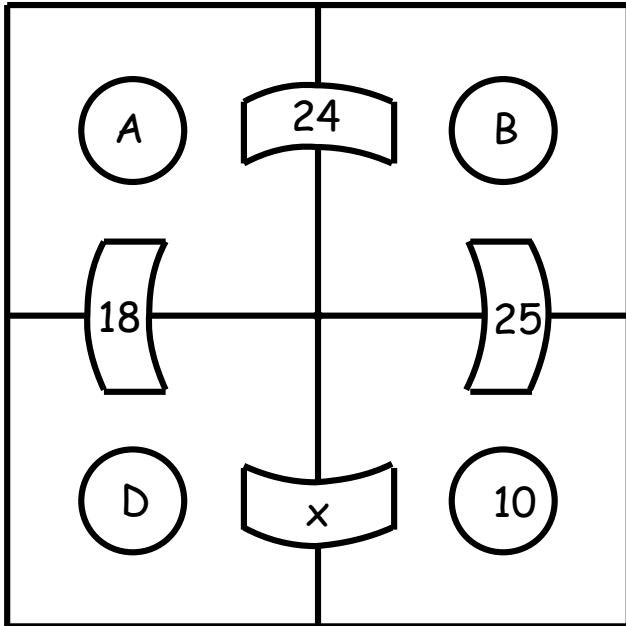
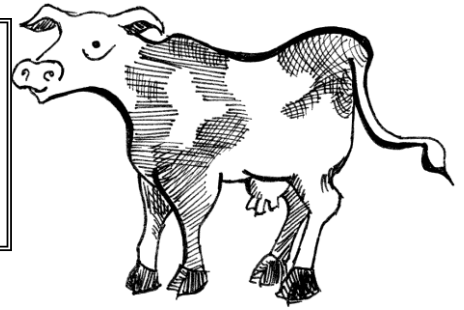
In the following diagrams, the number on each bridge is the *sum* of the numbers of cows in each of the adjoining fields. Find all of the unknown values. I.#3

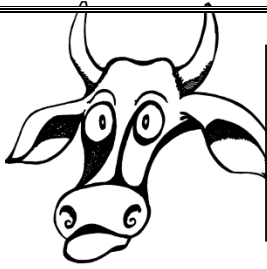


One of these two puzzles is solvable, the other is not.
Which and Why?

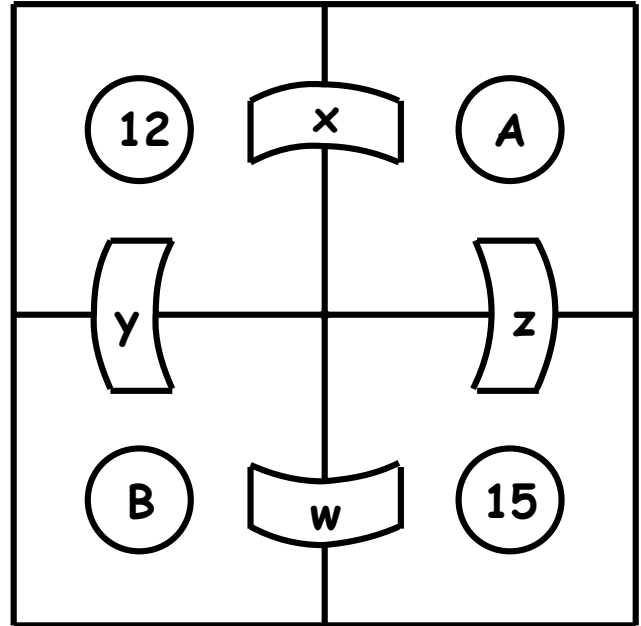
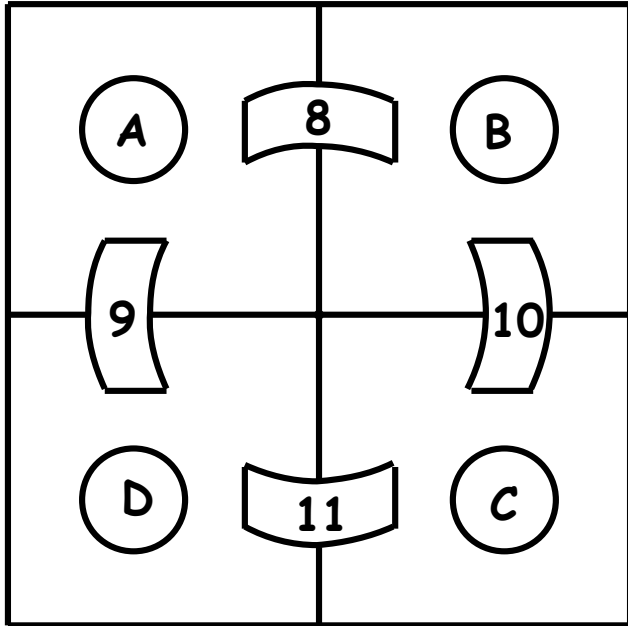
In the following diagrams, the number on each bridge is the *sum* of the numbers of cows in each of the adjoining fields. Find all of the unknown values.

I.#4

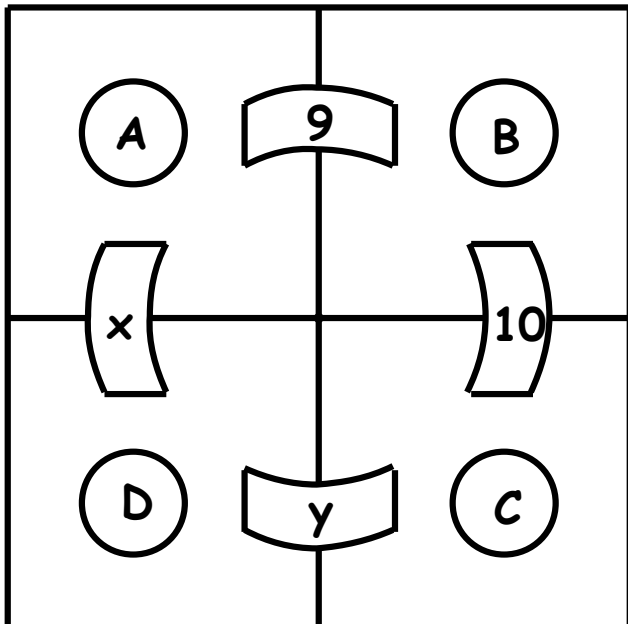




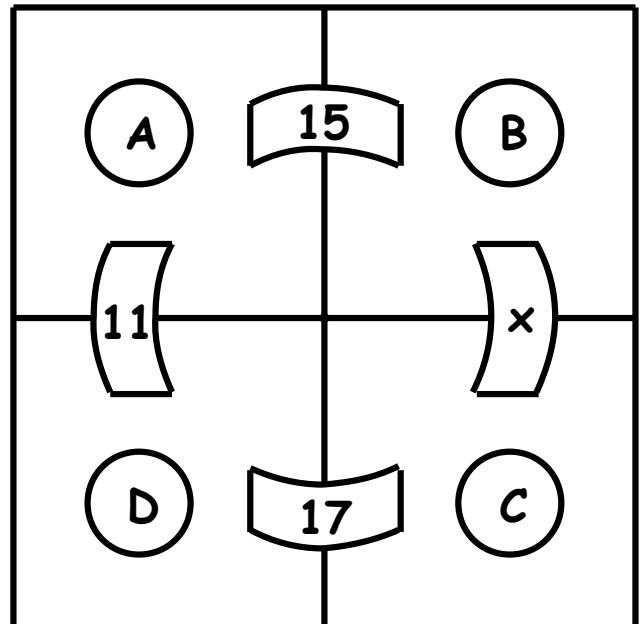
In the following diagrams, the number on each bridge is the *sum* of the numbers of cows in each of the adjoining fields. Find all of the unknown values. I.#5



$$A + B = 36 \text{ and } w = z$$

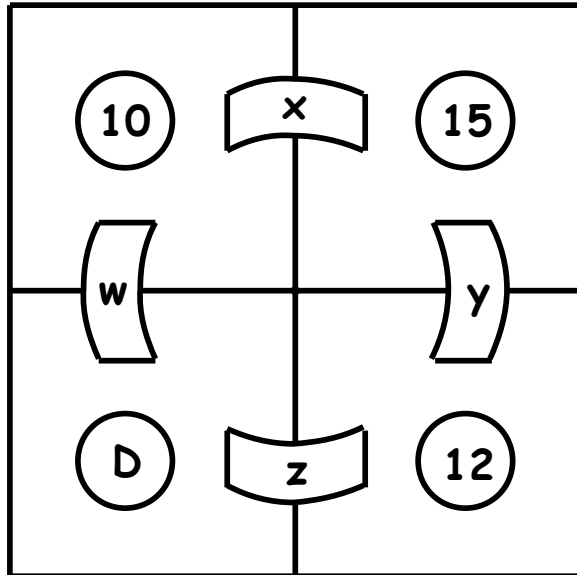
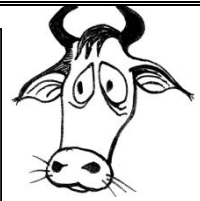


$$x + y = 7$$

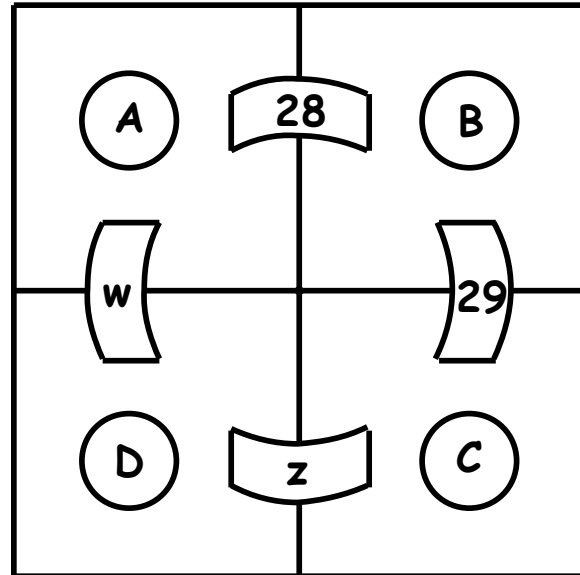


$$A + C = 12$$

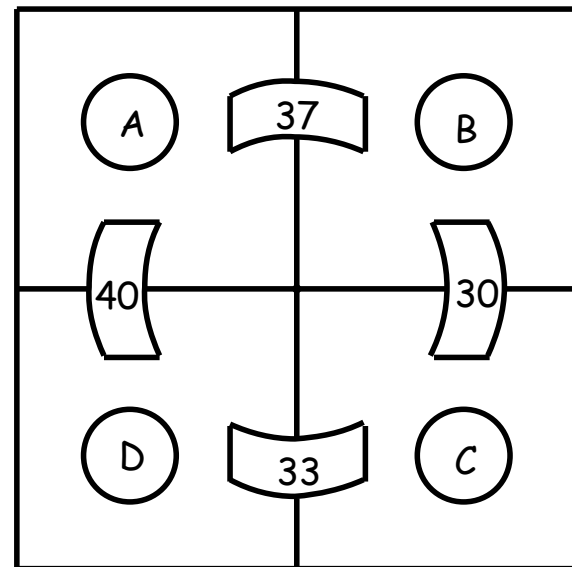
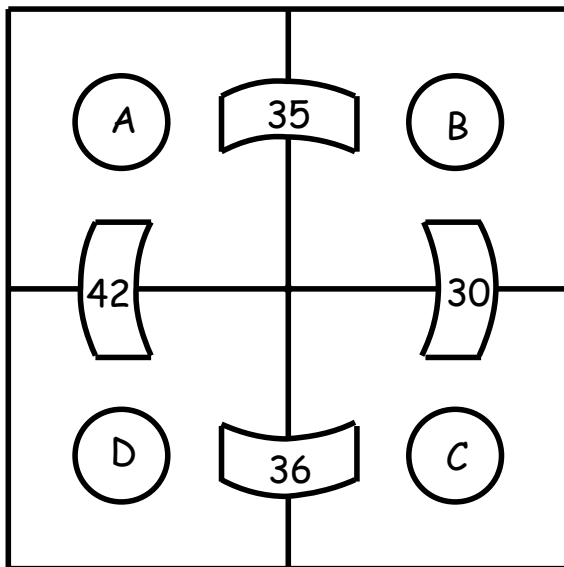
In the following diagrams, the number on each bridge is the *sum* of the numbers of cows in each of the adjoining fields. Find all of the unknown values. I.#6



$$x + y + z + w = 96$$

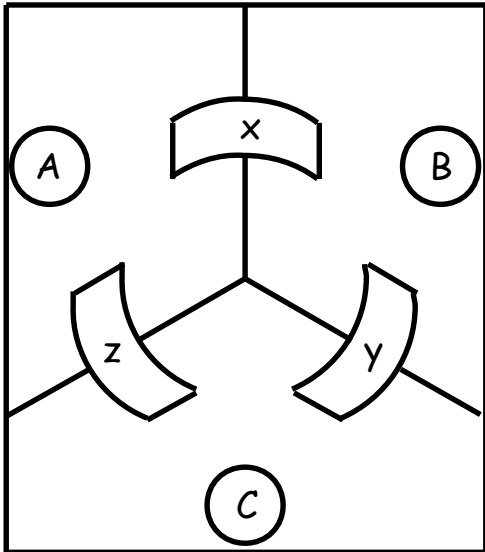


$$A + B + C + D = 60$$



Which of these last two puzzles is solvable? Why?

In the following diagrams, the number on each bridge is the **sum** of the numbers of cows in each of the adjoining fields. I.#7



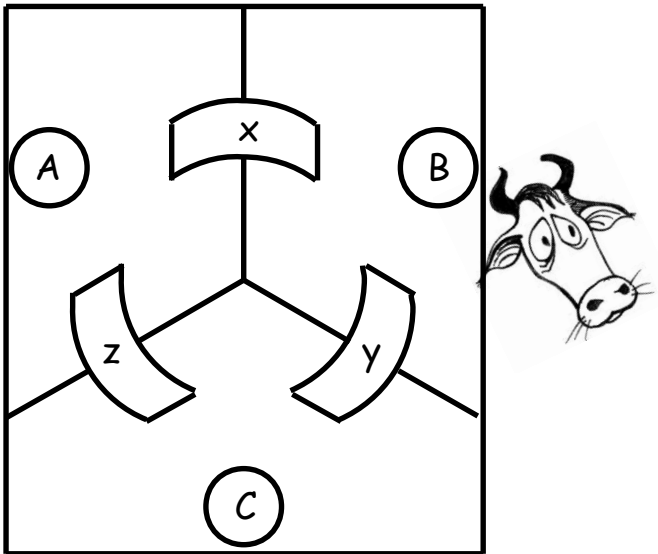
Show that

- i) $A = \frac{x - y + z}{2}$
- ii) $B = \frac{x + y - z}{2}$
- iii) $C = \frac{-x + y + z}{2}$

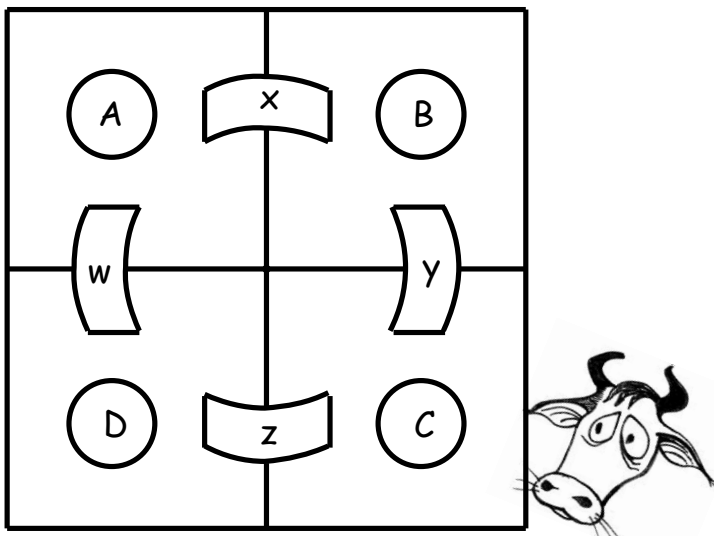


In the following diagrams, the number on each bridge is the *sum* of the numbers of cows in each of the adjoining fields. If the numbers on the bridges are consecutive, is it possible that the numbers in the fields are also consecutive? Explain your answer. I.#8

a)

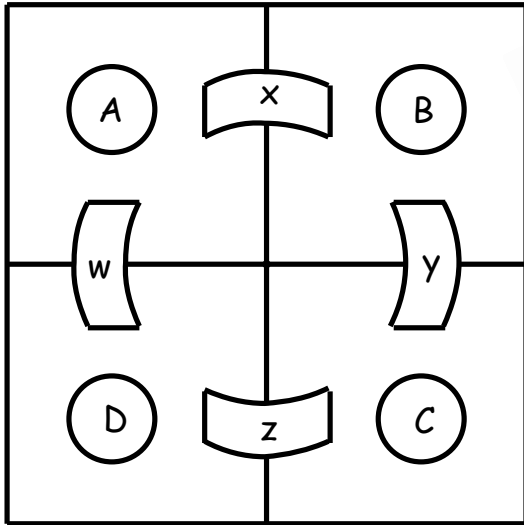


b)



In the following diagrams, the number on each bridge is the *sum* of the numbers of cows in each of the adjoining fields. Using only single digit numbers, without repetition, find all possible solutions to each puzzle. I.#9

a)



b)

