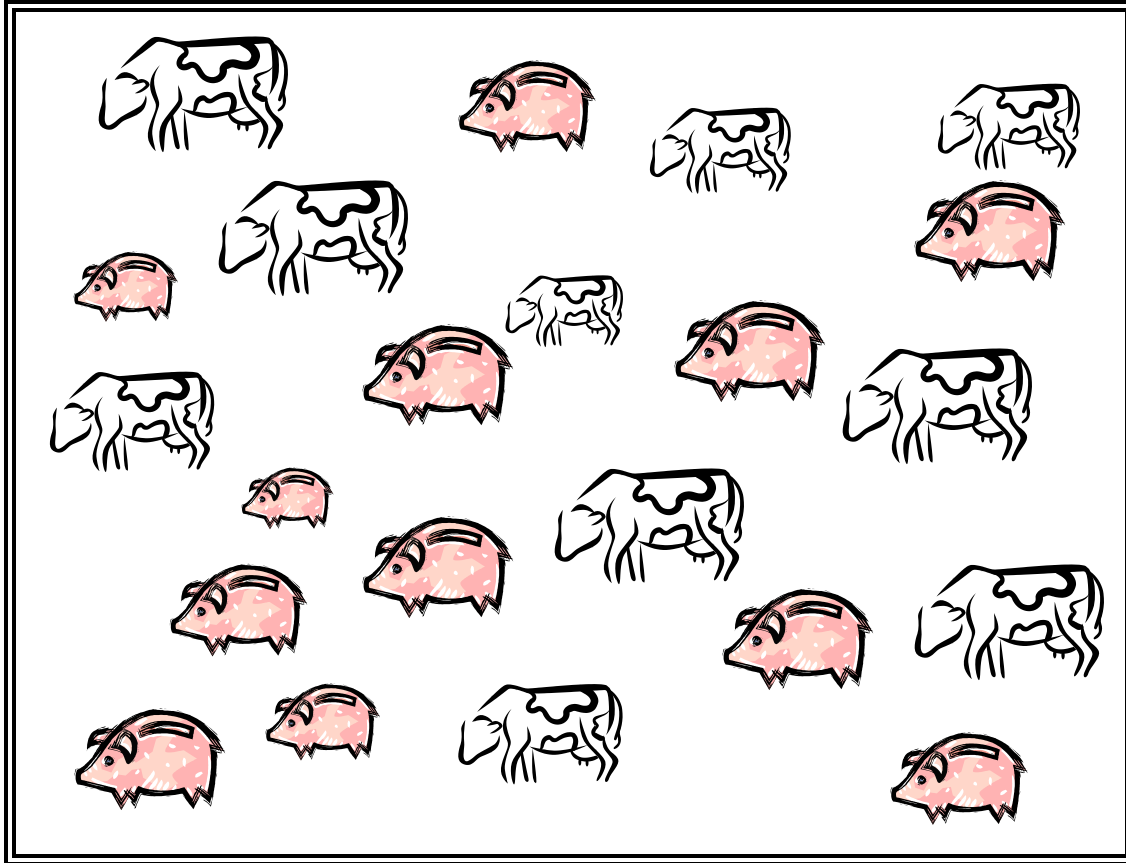


2009 World View

As the leader of your village, you are responsible for keeping track of the livestock in your village. The problem is that it is taboo in your culture to count living beings. How are you going to count them?

Determine a way to count without counting.



1. Count the total number of livestock in the pen.
 - a. How did you count them?

 - b. How do you know that your total is accurate?

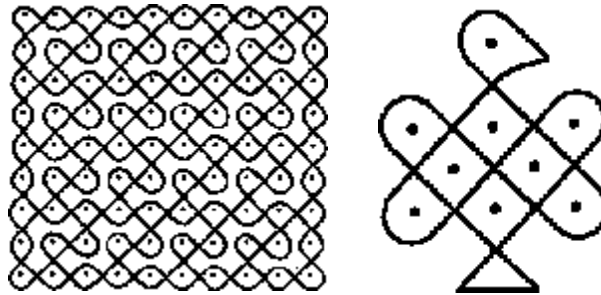
2. Each cow costs twice as a pig and a pig costs 10 beads.
 - a. What is the value of all of the livestock?

 - b. How did you determine this value?

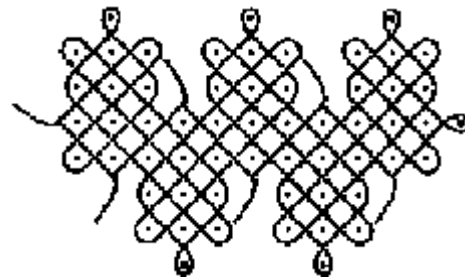
2009 World View

Sona: Angolan Sand Drawings

- I. *Sona* are networks that are drawn in the sand without lifting the finger or retracing any line segments.



Some *sona* depict pictures.



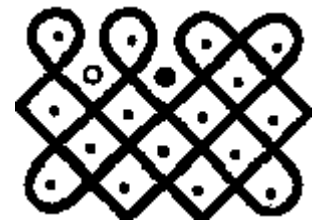
Leopard with Five Cubs

- II. Many *sona* are accompanied by a story.

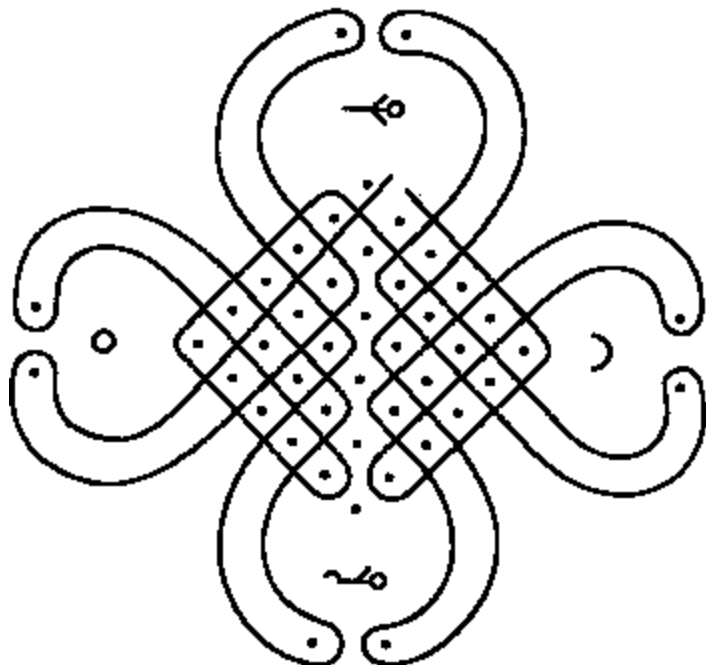
The Hunter and the Dog

An old story teller said that a certain hunter, named Tshipinda, went on a hunt leading the dog Kawa, and caught a goat. Upon returning to the village, the hunter divided the meat with Calala, the owner of the dog. Kawa was left with the bones.

After some time, Tshipinda again asked for the services of the dog, but the latter refused to help him. He told the hunter to take Calala since it was with him that he was accustomed to dividing the meat.



2009 World View



The Jokwe Story of the Beginning of the World

The figure at the top is God, at the left is the Sun, at the right is the Moon and at the bottom is a human. The lusona represents the path to God.

One day the Sun went to visit God. God gave the Sun a chicken and said, "Return in the morning before you leave." In the morning the chicken crowed and woke the Sun. When the Sun went to God, God said, "You did not eat the chicken I gave you for supper. You may keep the chicken but return here every day." That is why the Sun circles the earth and rises every morning.

The Moon also went to visit God and was given a chicken. In the morning the chicken crowed and woke the Moon. Again God said, "You did not eat the chicken I gave you for supper. You may keep the chicken but return here every twenty-eight day." That is why the Moon cycle is twenty-eight days long.

The human also went to visit God and was given a chicken. But the human was hungry after such a long journey and ate part of the chicken for supper. The next morning the Sun was already high in the sky when the human awoke, ate the rest of the chicken, and hurried to see God. God said, "I did not hear the chicken crow this morning." The human replied fearfully, "I was very hungry and ate it." "That is all right," said God, "but listen: you know that the Sun and Moon have been here, but neither of them killed the chicken I gave them. That is why they themselves will never die. But you killed yours, and so you must die as it did. But at your death you must return here."

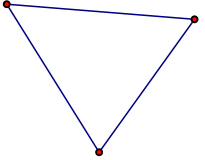
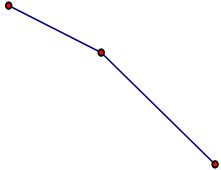
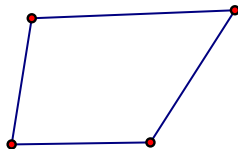
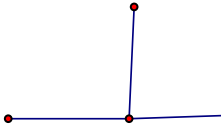
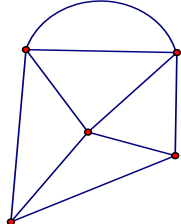
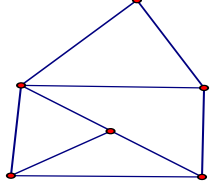
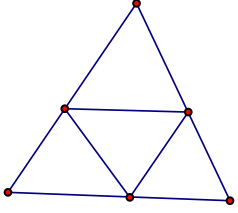
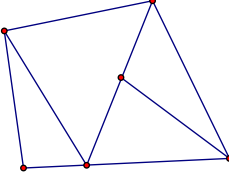
And so it is.

*** These are examples of Euler circuits and Euler Paths.**

2009 World View

TRAPPER PROBLEM: Consider the path a trapper must take as he visually inspects the animal traps that he has placed. The trapper must be efficient, so he would like to take a route that takes him over each trail exactly once. In graph theory, if each edge of a network can be covered exactly once, the network is called traceable.

1. Use the networks of traps to determine if the trapper can be efficient.

A. Three Traps	B. Three Traps	C. Four Traps	D. Four Traps
			
E. Five Traps	F. Five Traps	G. Six Traps	H. Six Traps
			

2. What is unique about the trials that the trapper can efficiently examine?