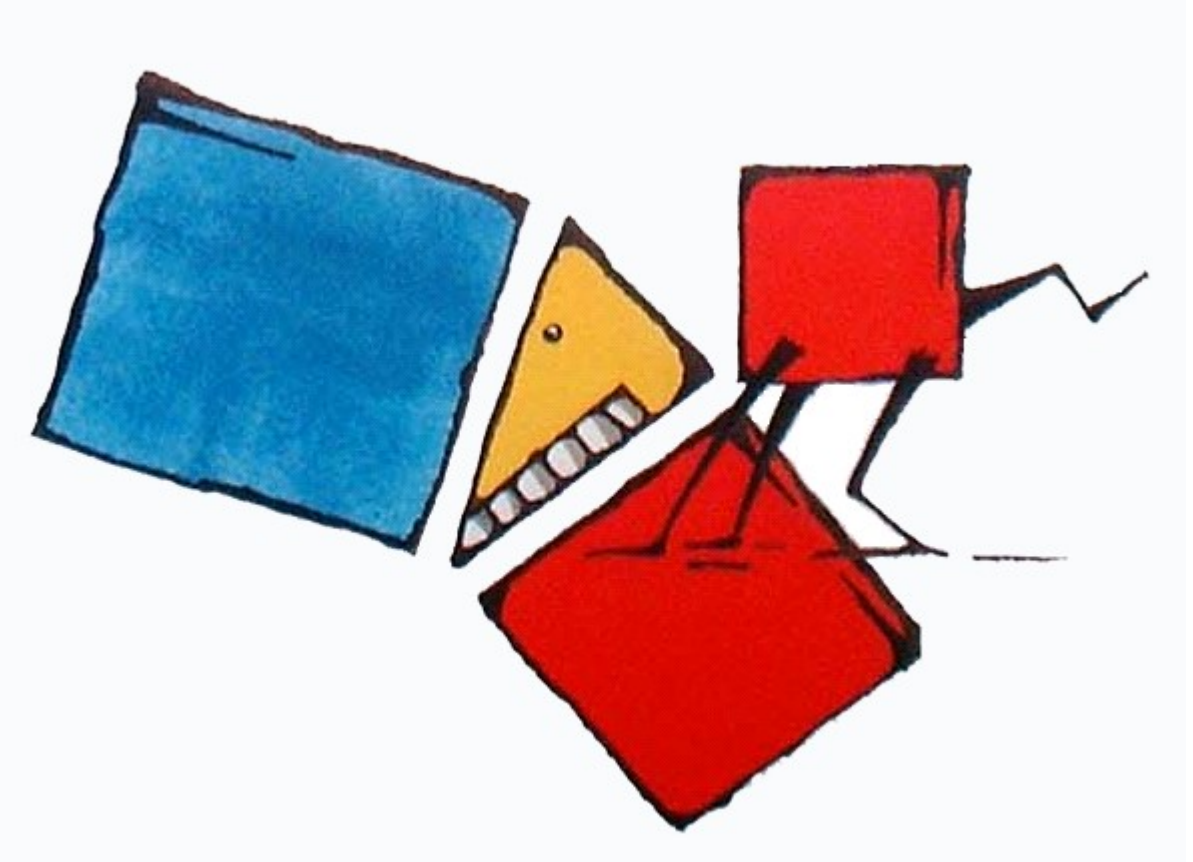
IL GIARDINO DI ARCHIMEDE

unmuseo perla [matematica]



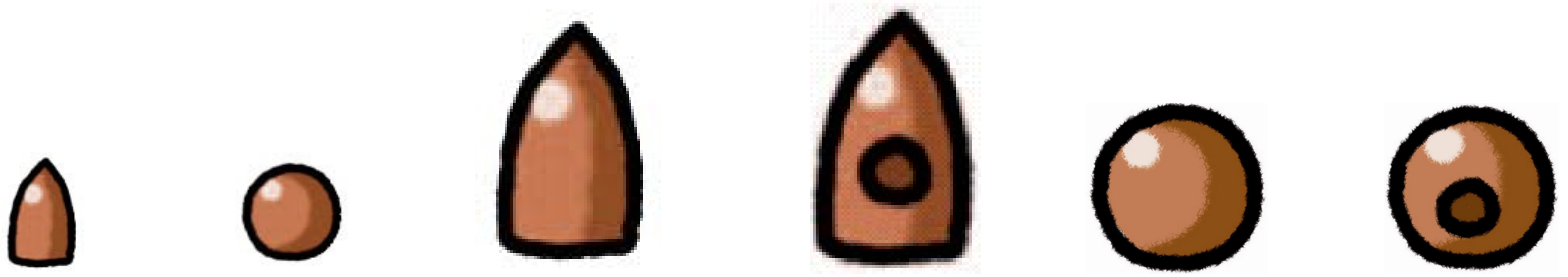
# Numeri e conti nell'antica Mesopotamia

Scuola Primaria *Vittorino da Feltre* – Sesto Fiorentino
classi IV A e IV B

# Alle origini della necessità di contare

# I *calculi* sumeri

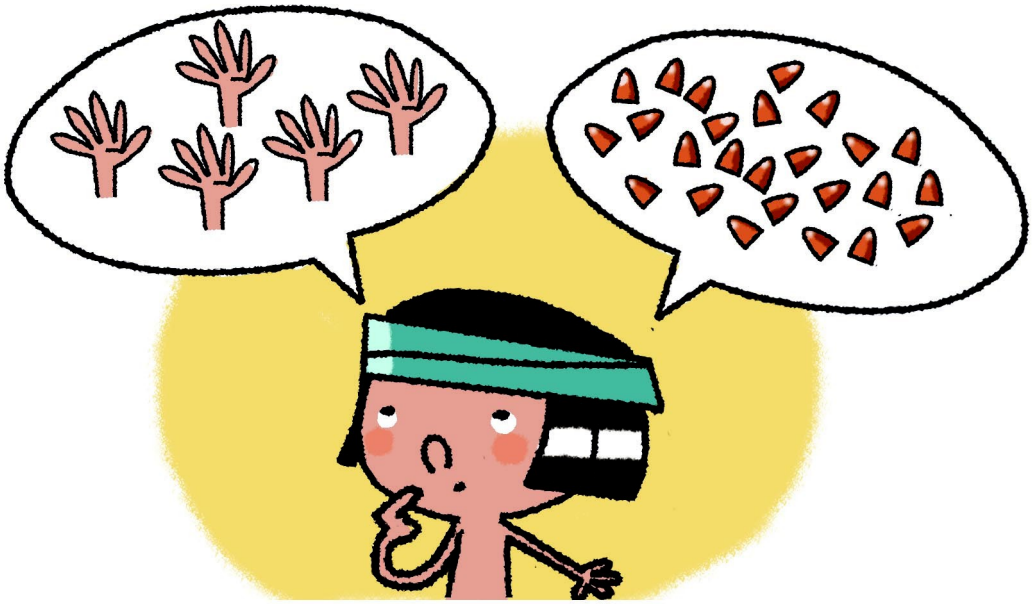
1 10 60 600 3600 36000



# I *calculi* sumeri

# I *calculi* sumeri

- leggere un numero
- comporre un numero
- i cambi
- addizioni
- sottrazioni
- moltiplicazioni
- divisioni

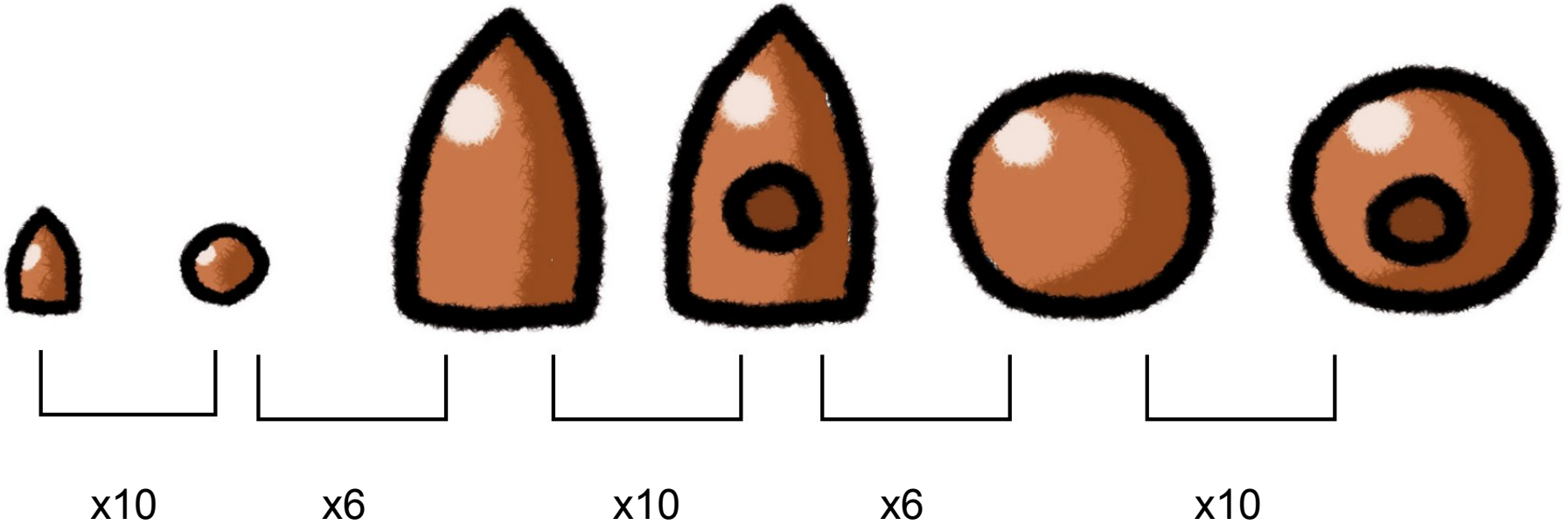


# I *calculi* sumeri

- leggere un numero
- comporre un numero

# I *calculi* sumeri

- cambi



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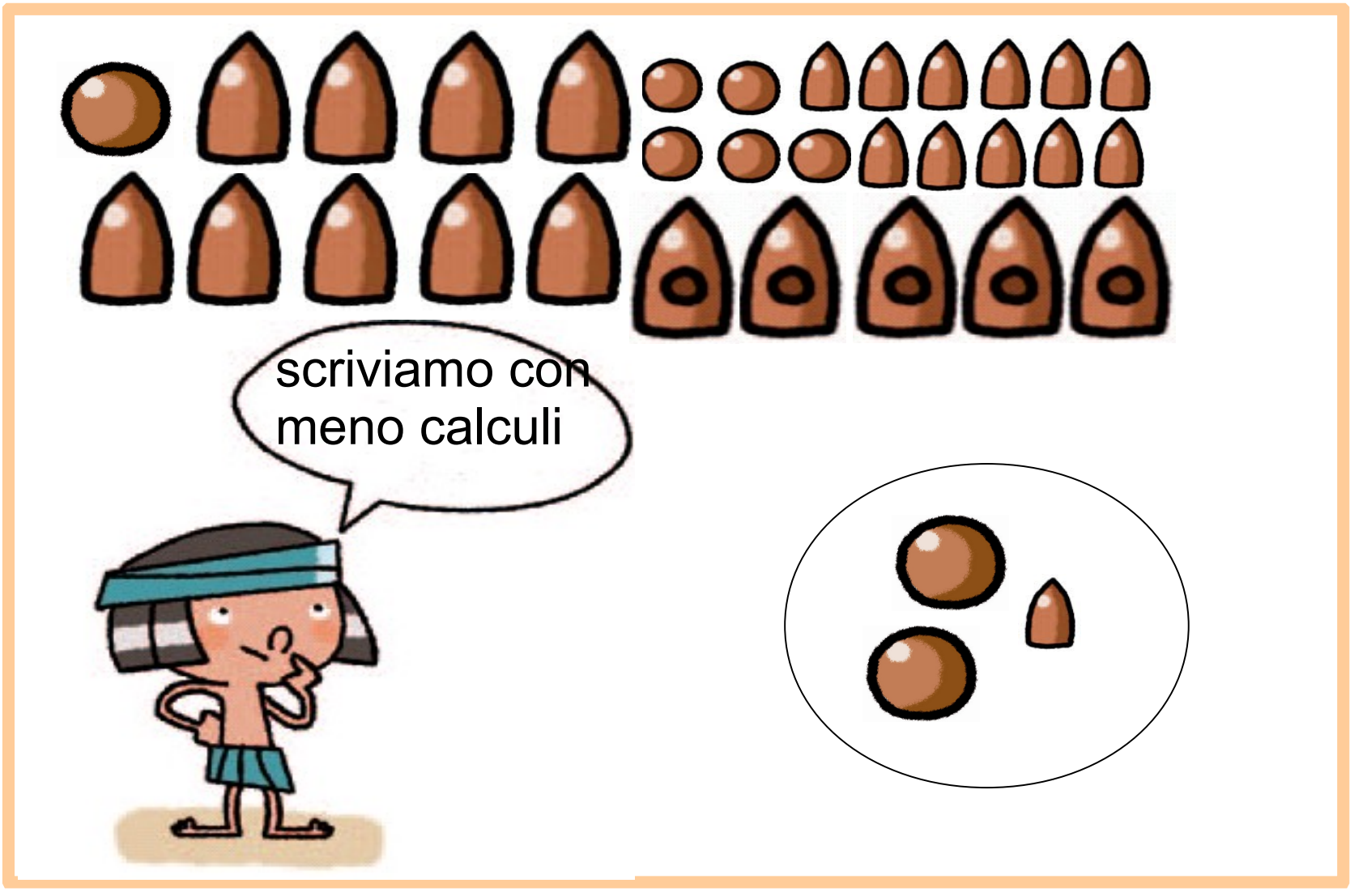
- cambi

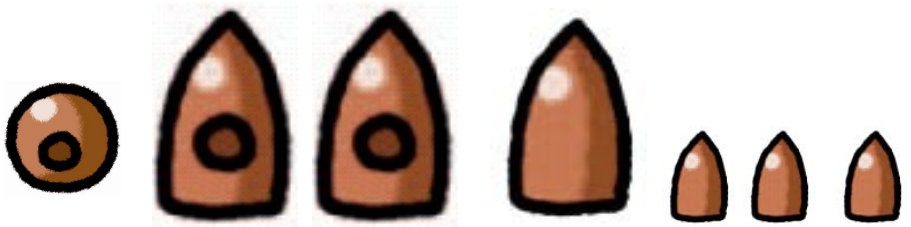


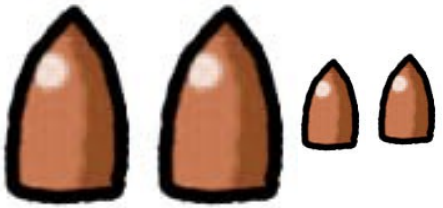
# I *calculi* sumeri

- addizioni
- sottrazioni


# I *calculi* sumeri

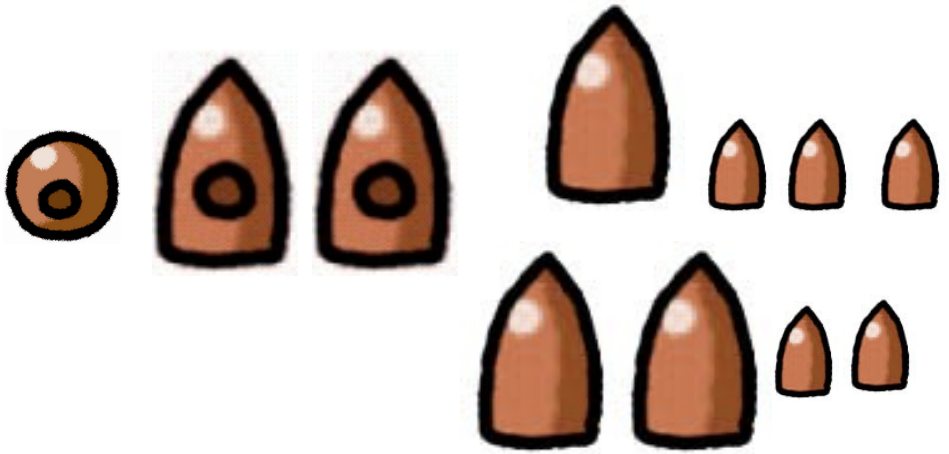
- Addizioni e sottrazioni: operazioni inverse





# I *calculi* sumeri

- Addizioni e sottrazioni: operazioni inverse



# I *calculi* sumeri

- moltiplicazioni
- divisioni


# I *calculi*

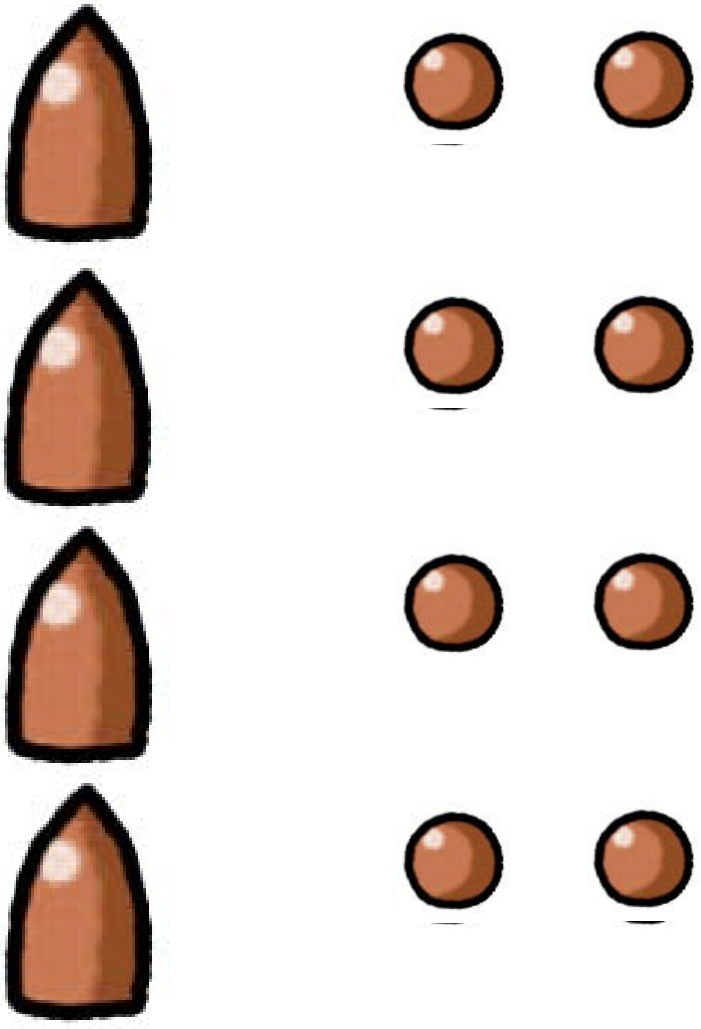
## Moltiplicare

### Primo modo

# I *calculi*

## Moltiplicare

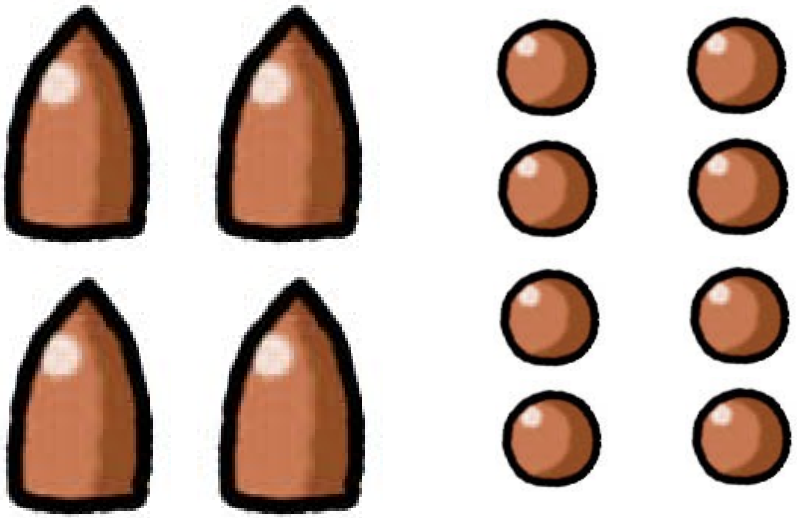
### Primo modo



# I *calculi*

## Moltiplicare

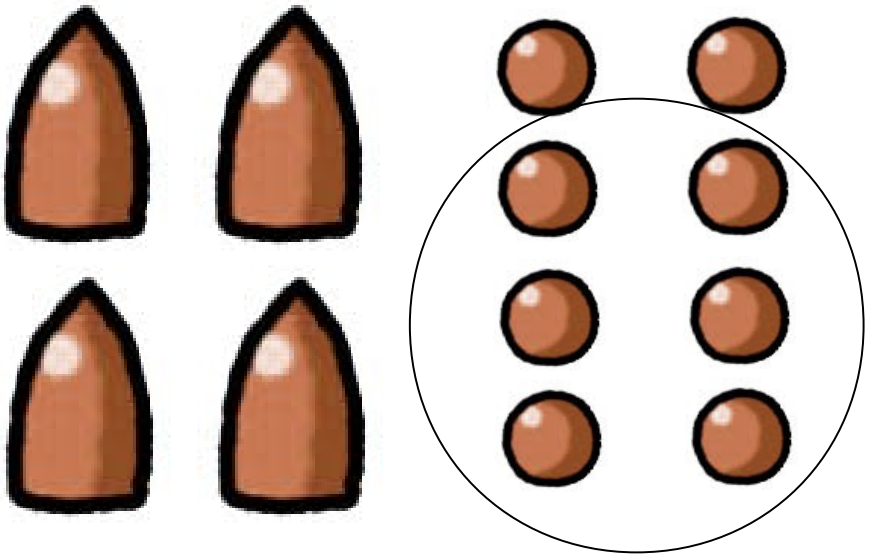
### Primo modo



# I *calculi*

## Moltiplicare

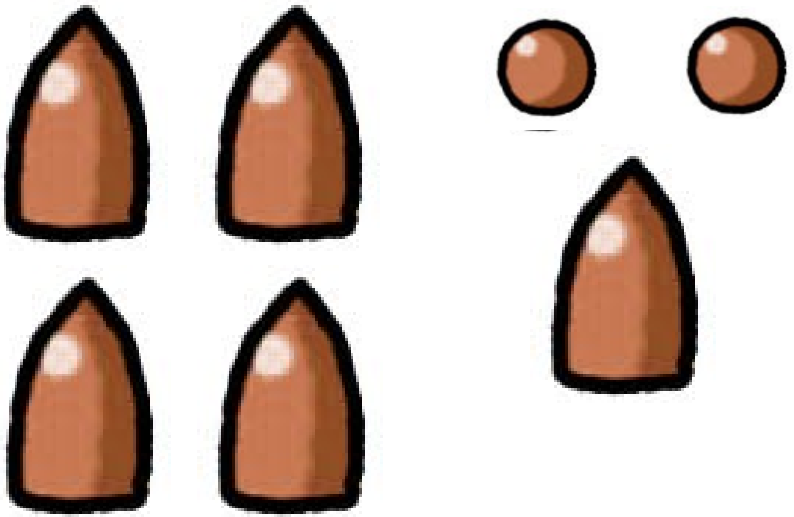
### Primo modo



# I *calculi*

## Moltiplicare

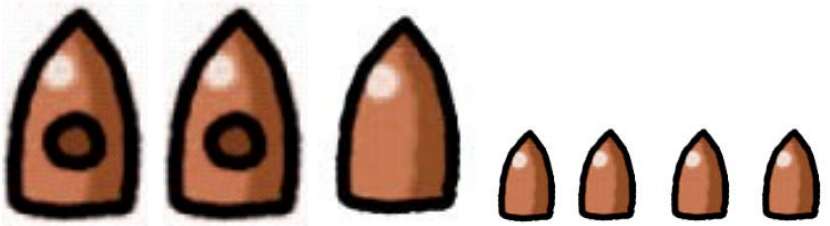
### Primo modo



# I *calculi*

## Moltiplicare

### Secondo modo



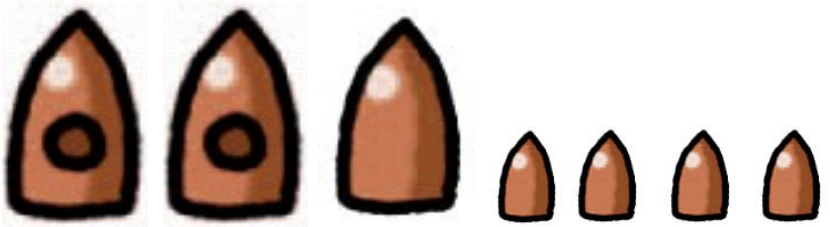
per

centoventuno volte

# I *calculi*

## Moltiplicare

### Secondo modo



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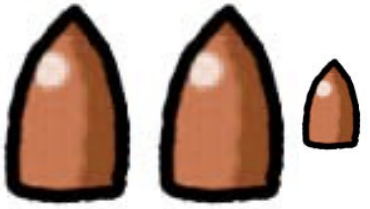
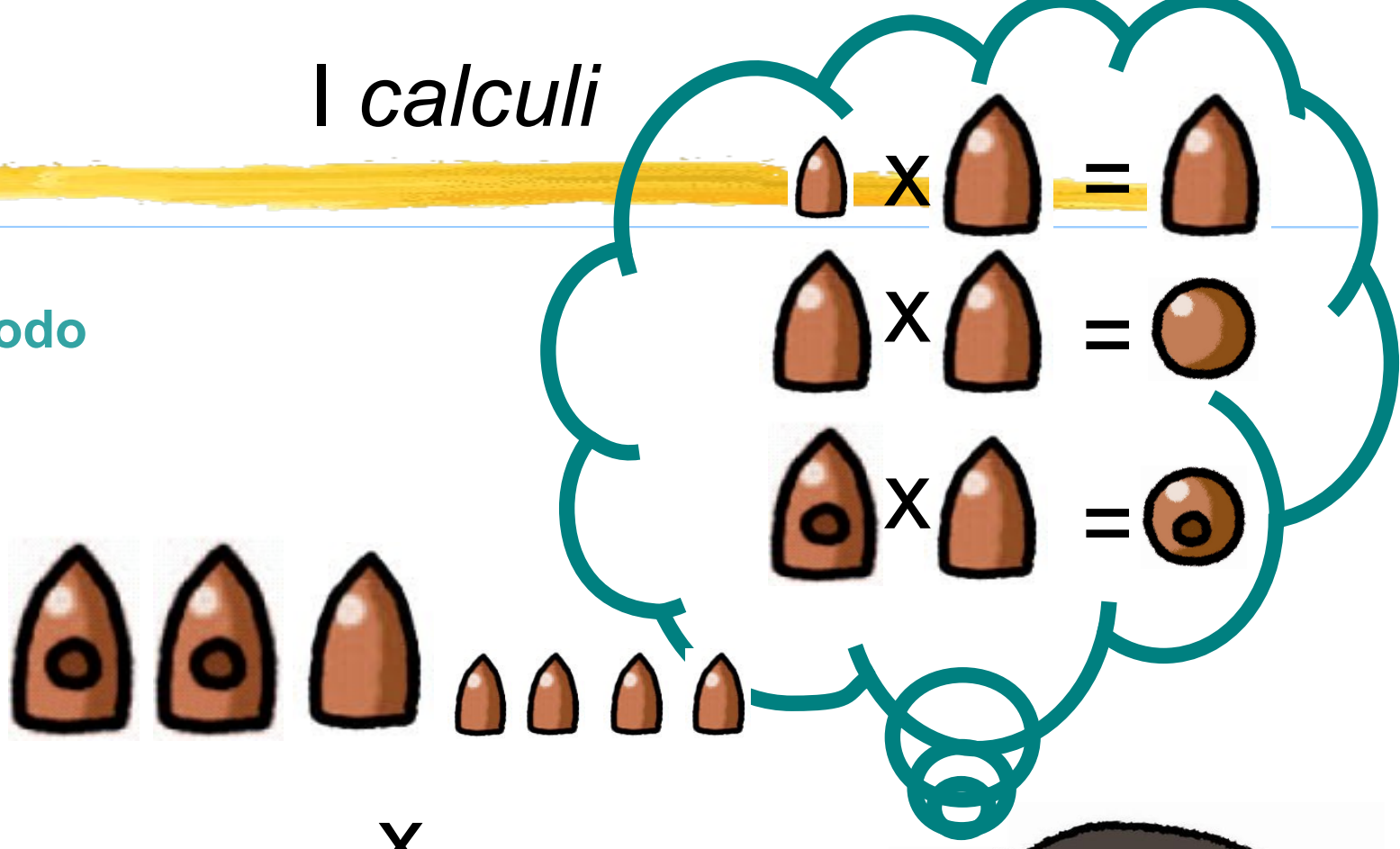


# I *calculi*

## Moltiplicare

### Secondo modo



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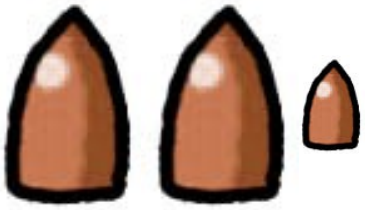

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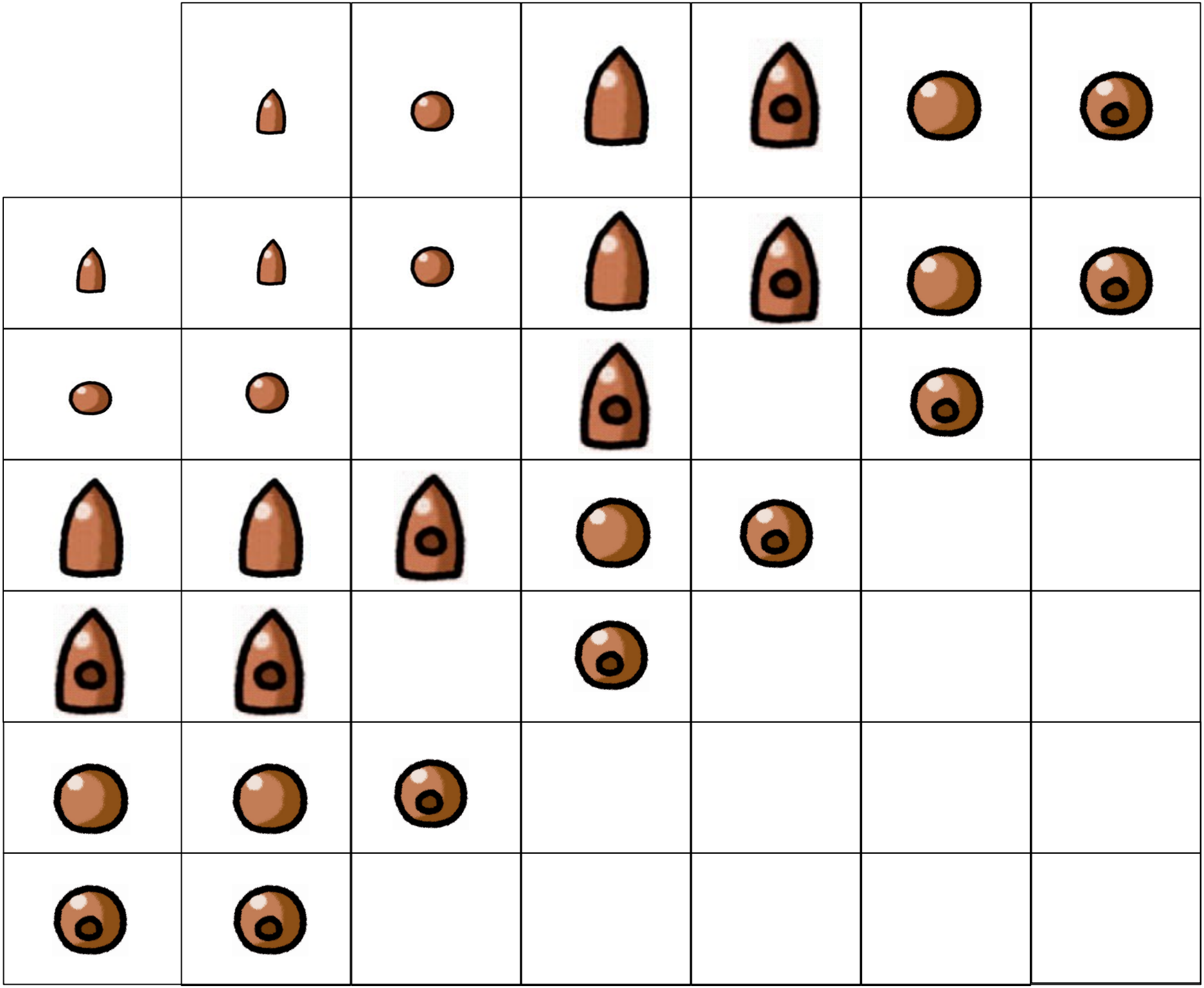
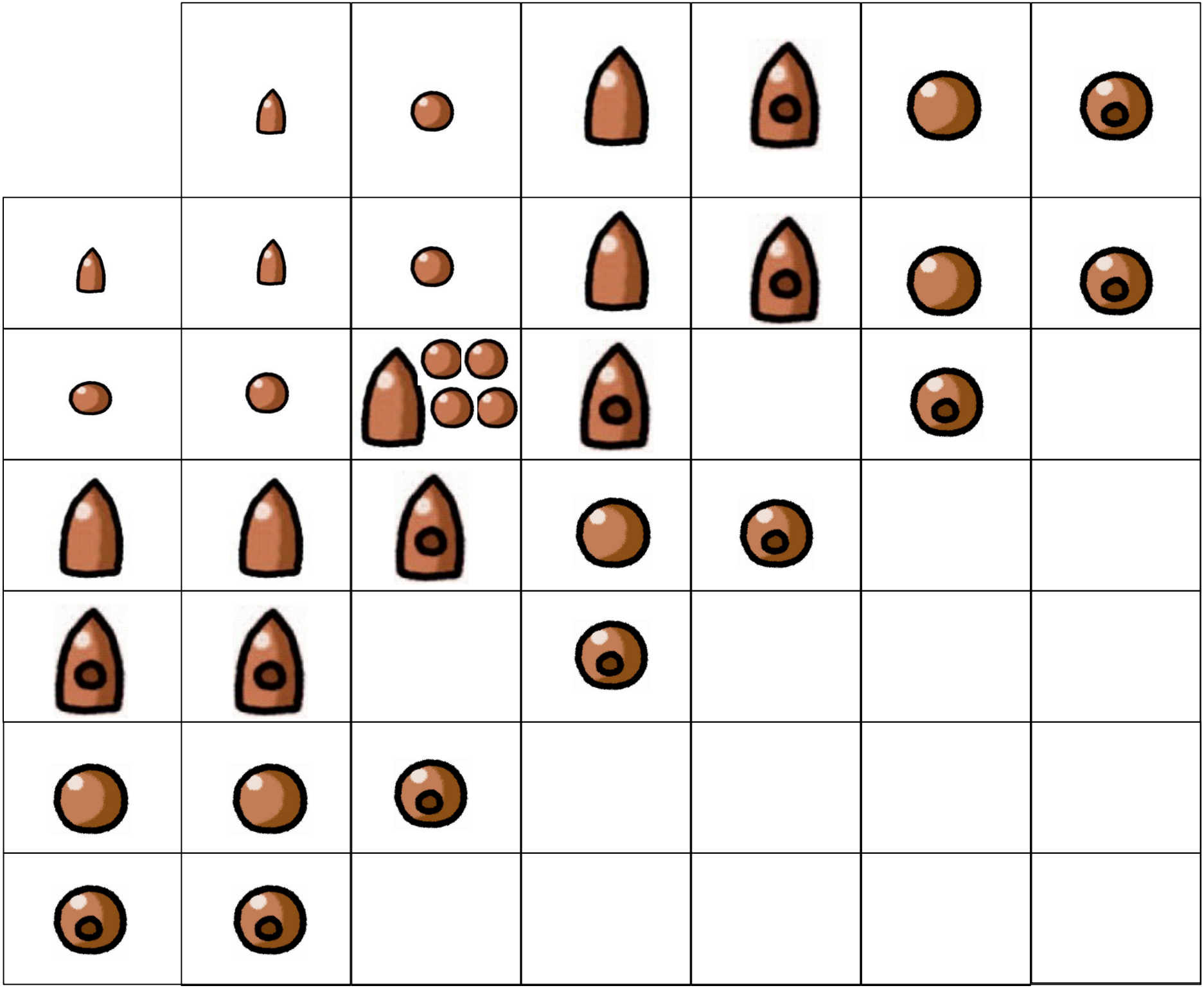
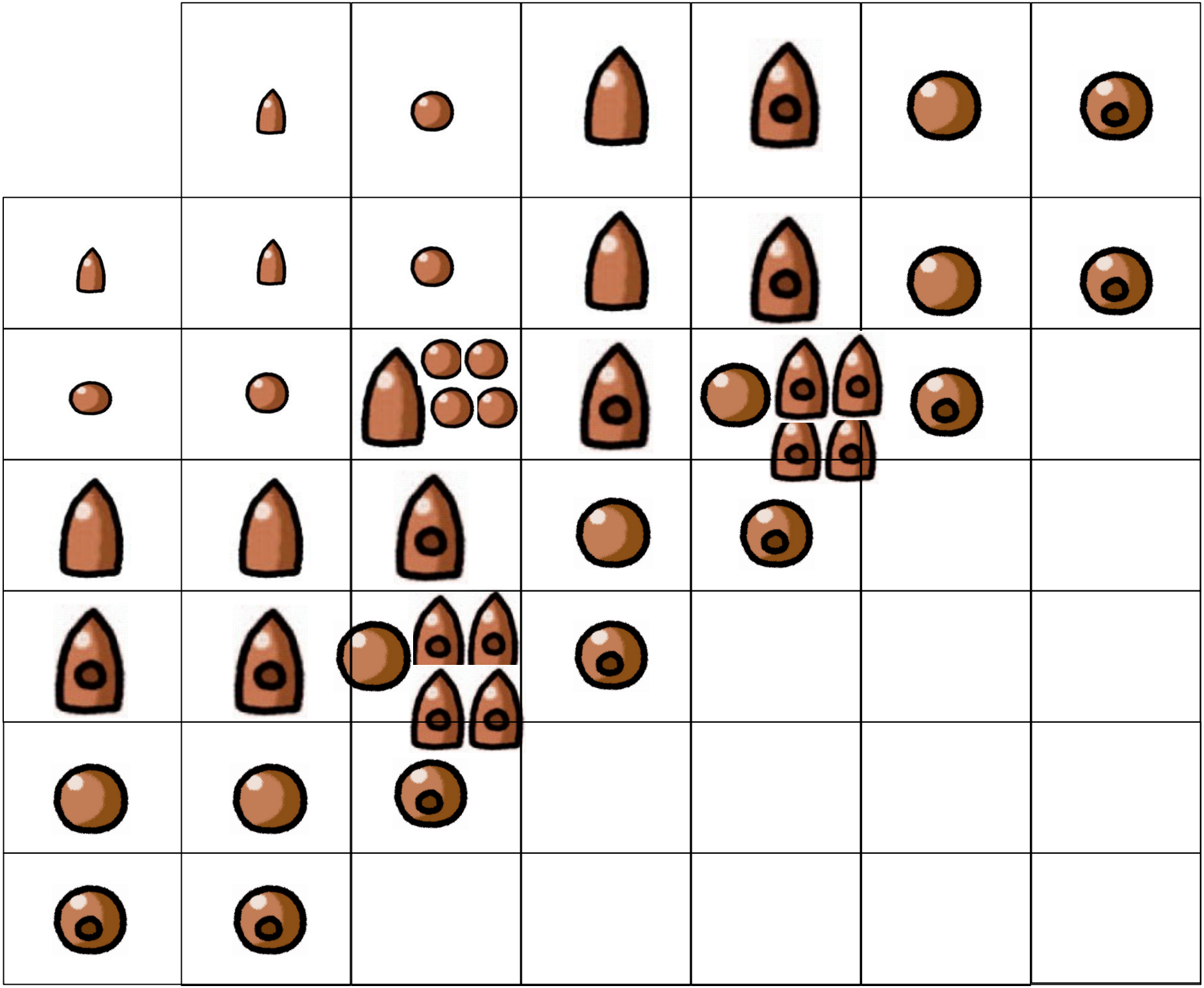


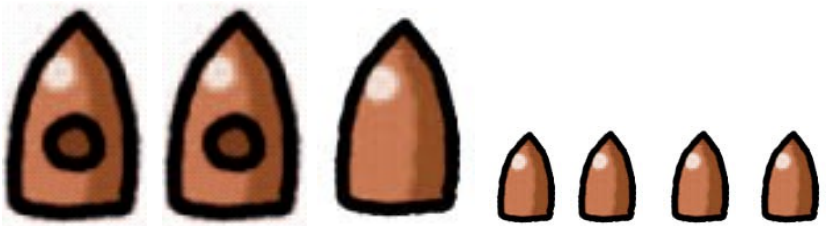




# I *calculi*

## Moltiplicare

### Secondo modo



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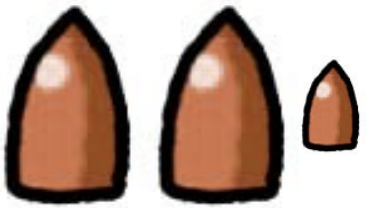
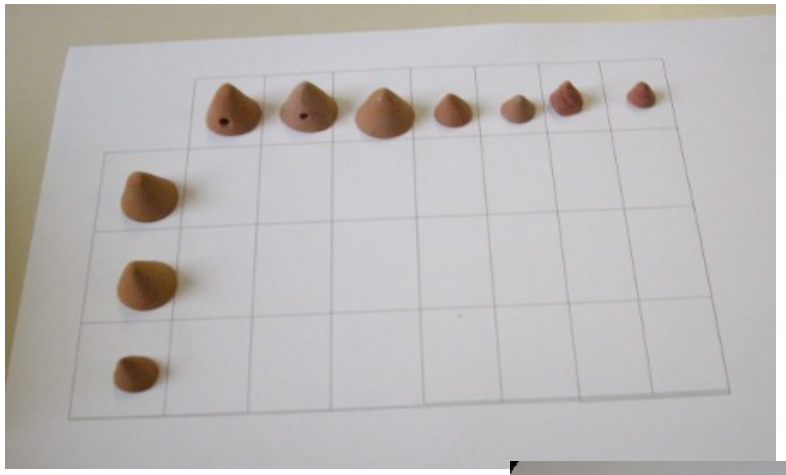
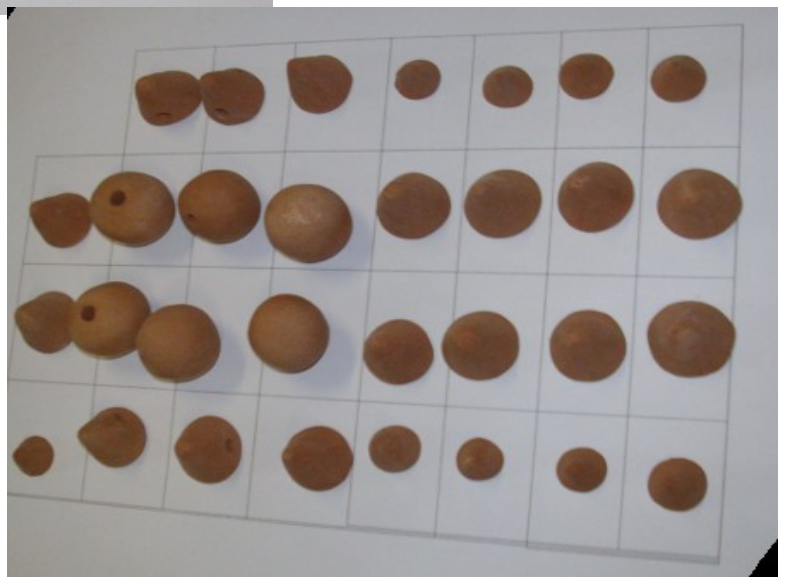
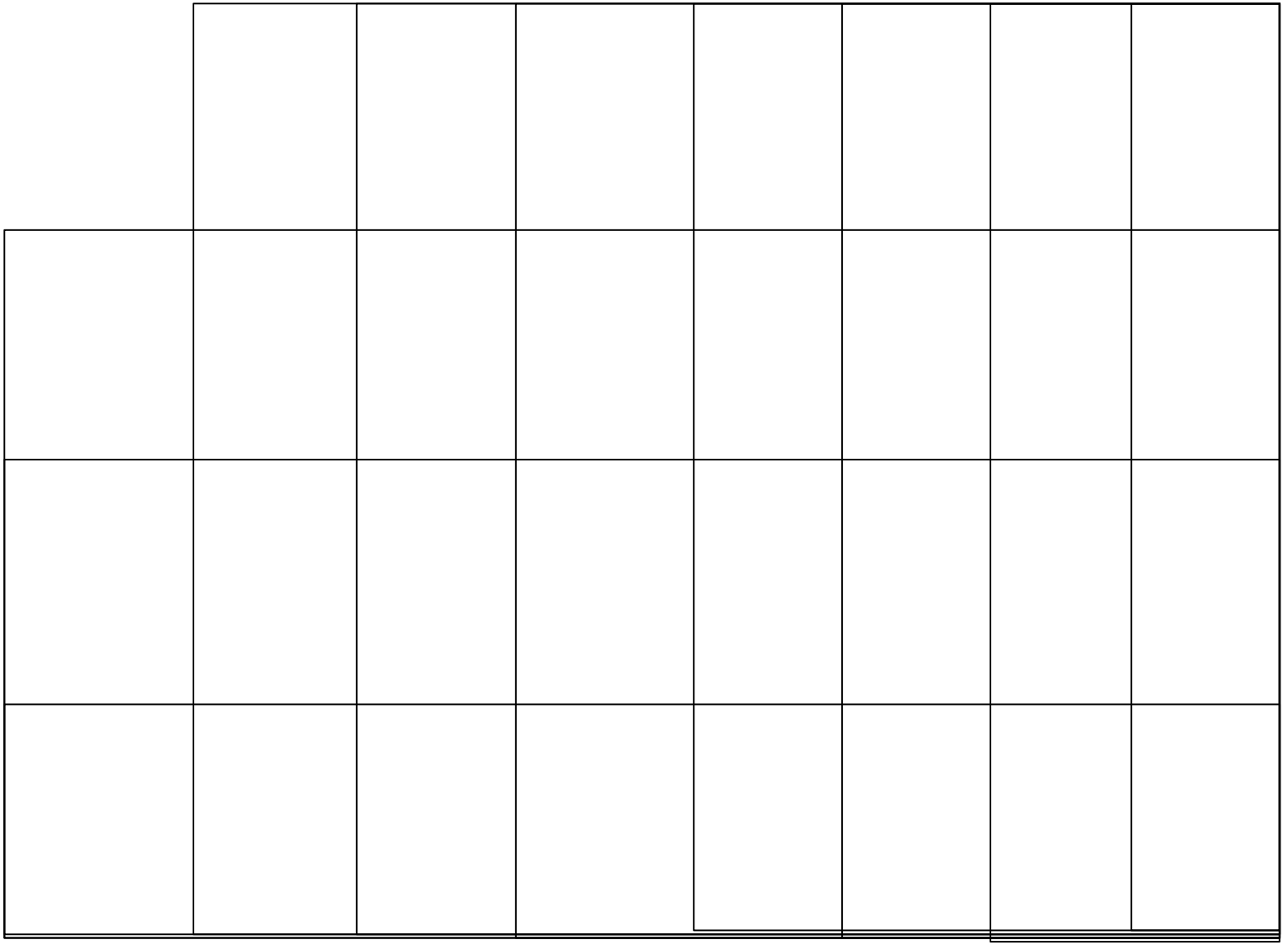
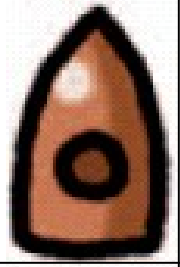
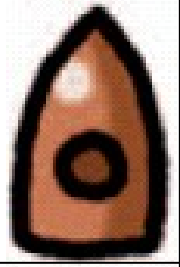








| |  |  |  |  |  |  |  |
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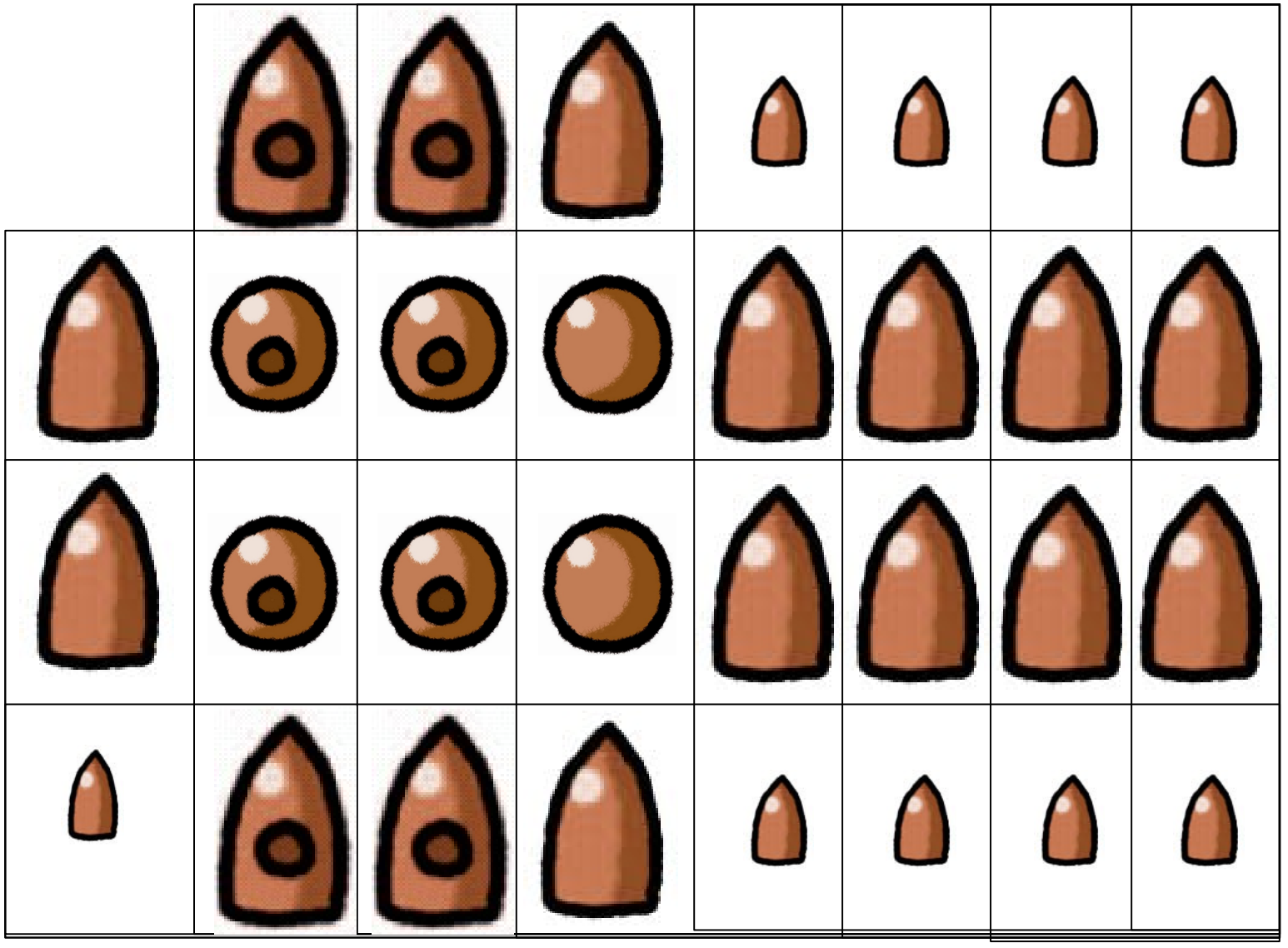
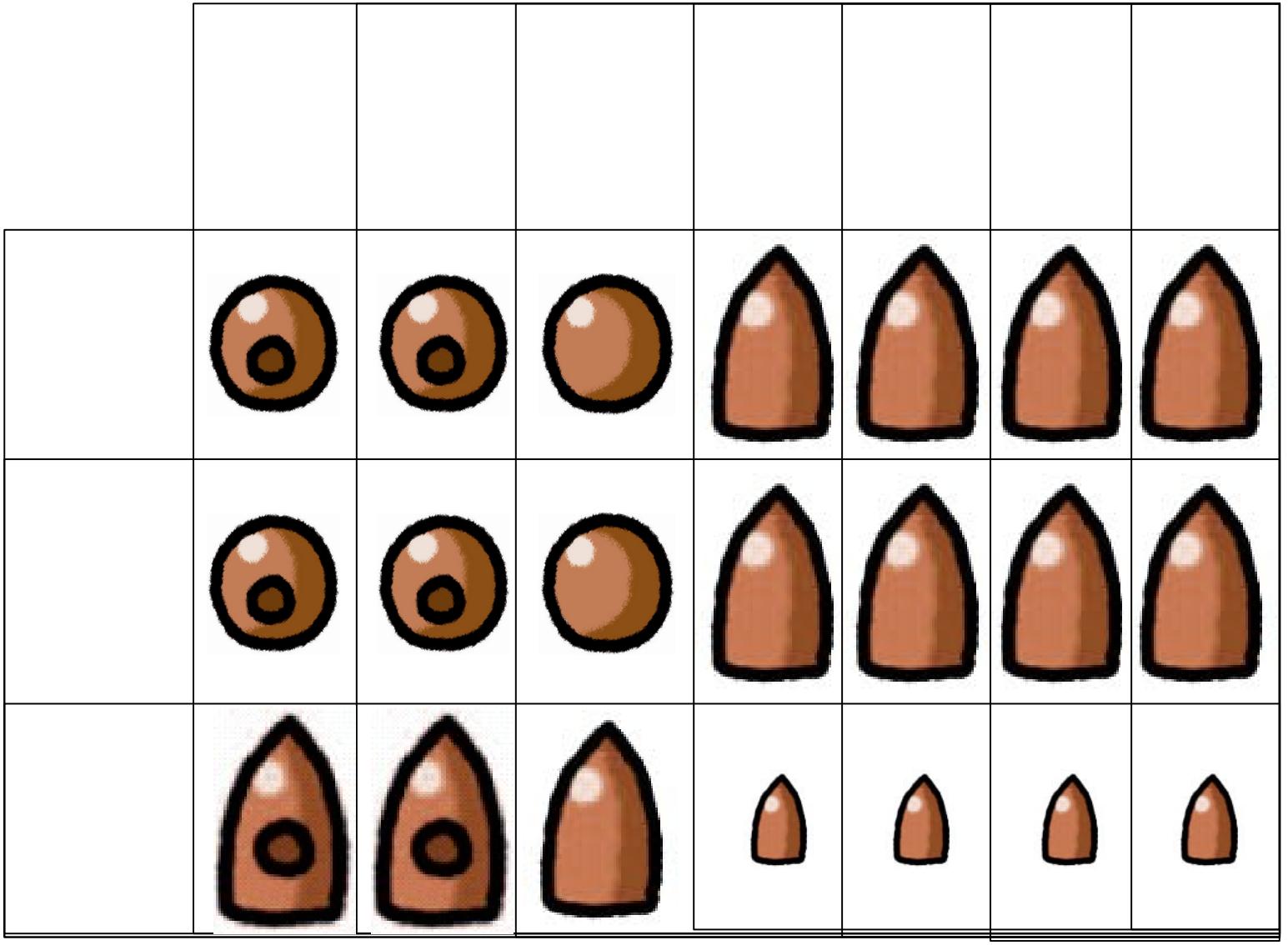
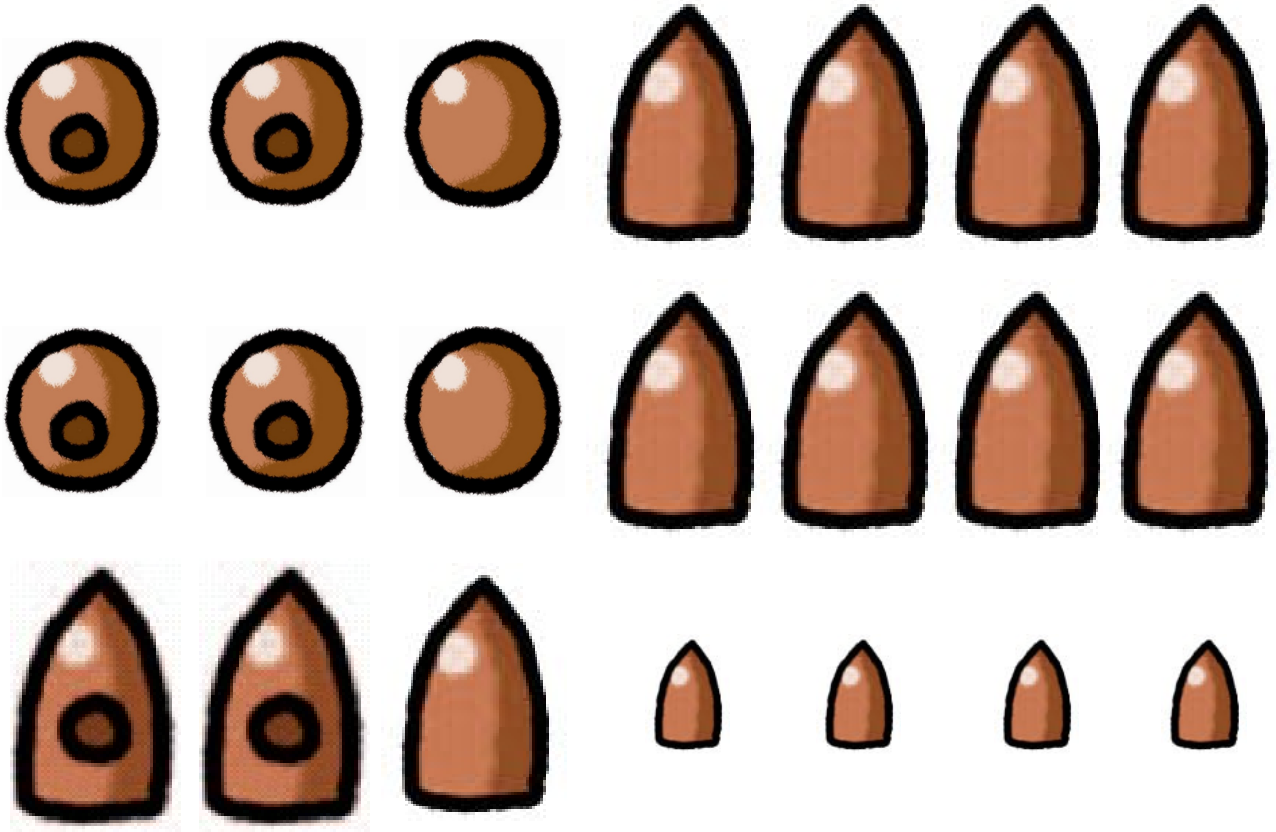




# I *calculi*

## Moltiplicare

### Secondo modo



# Dai *calculi* alla scrittura

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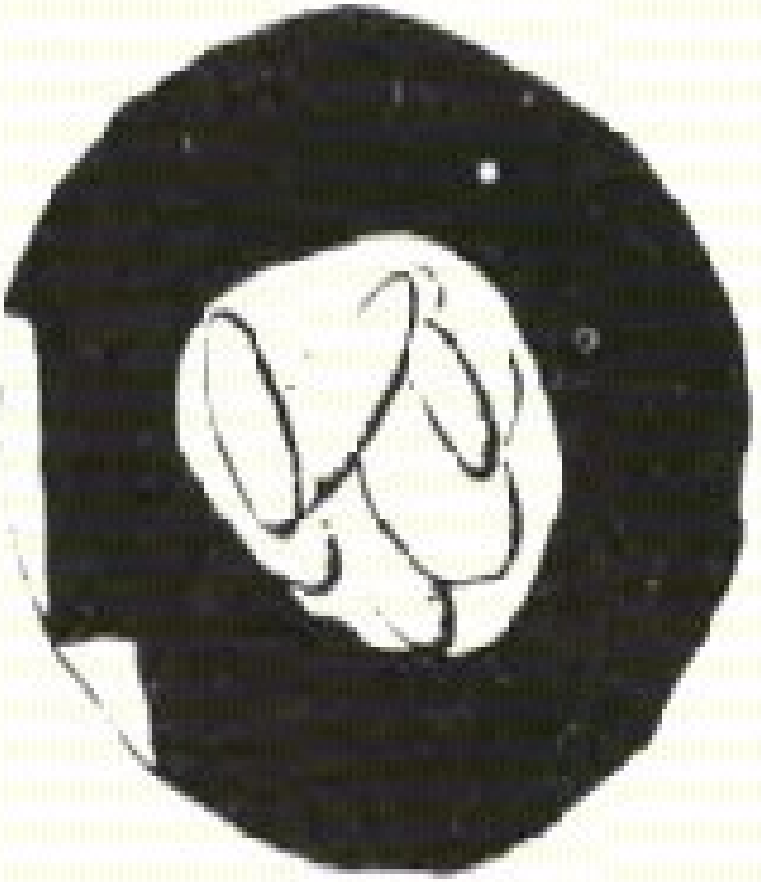

# Dai *calculi* alla scrittura

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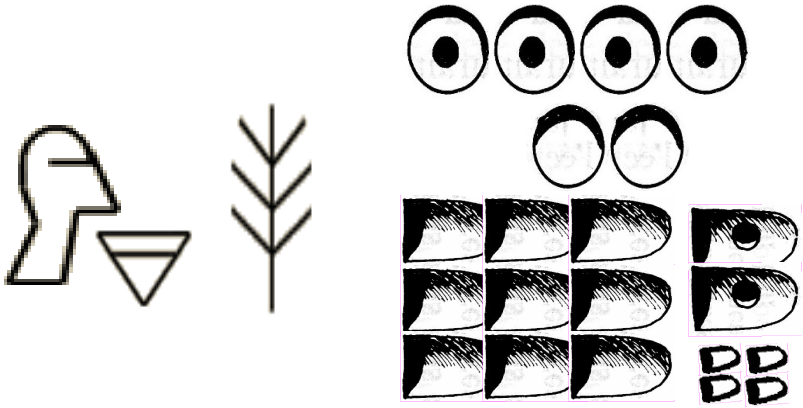
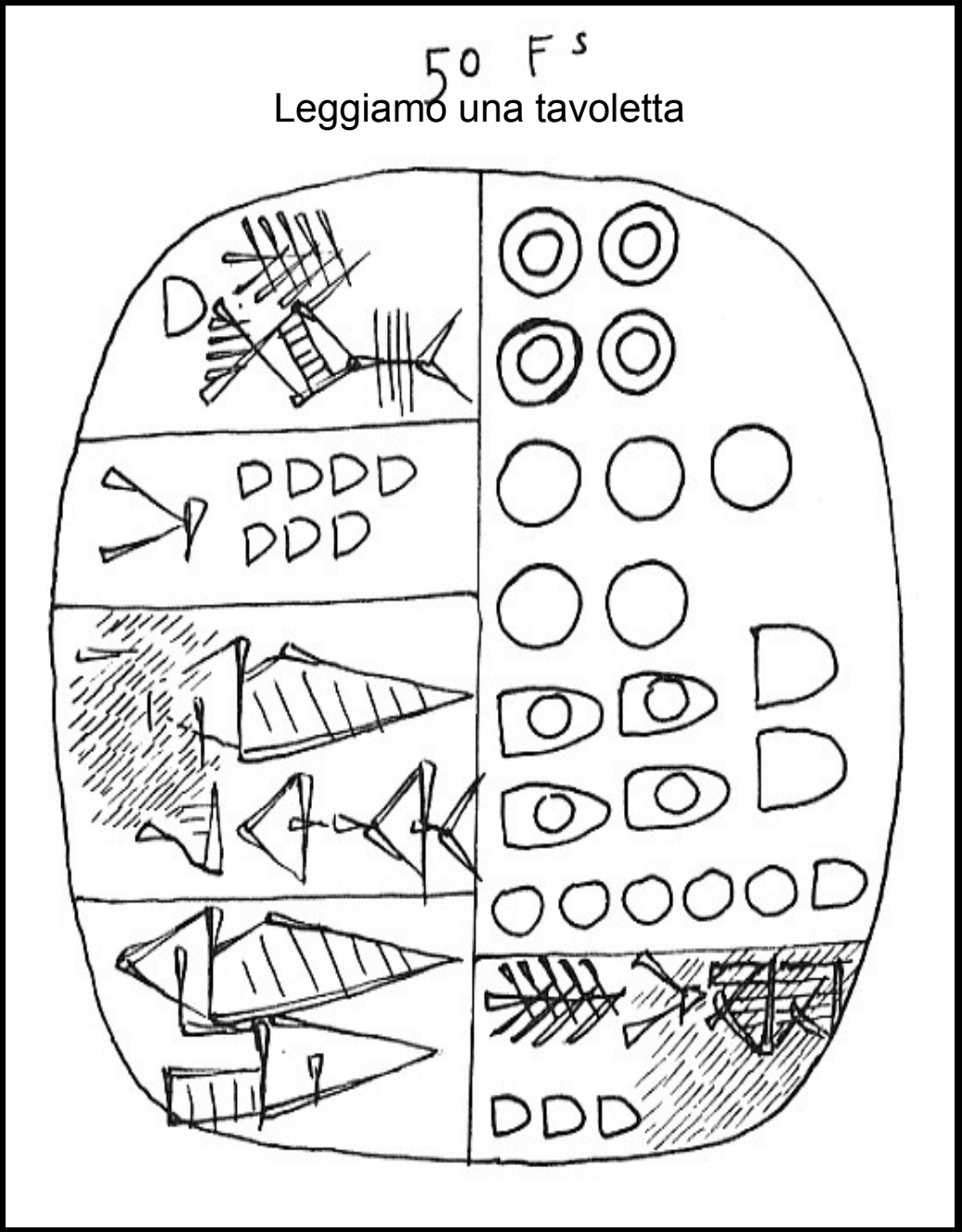


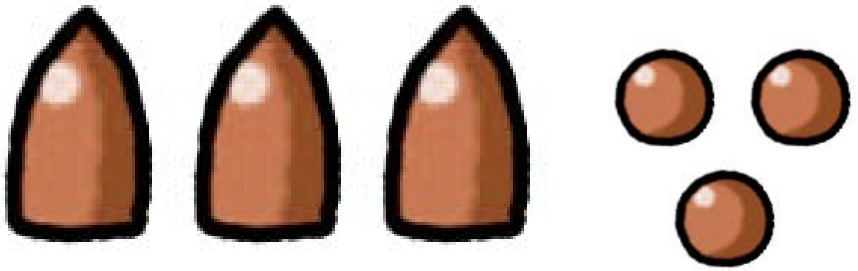
# Dai *calculi* alla scrittura

Leggiamo una tavoletta

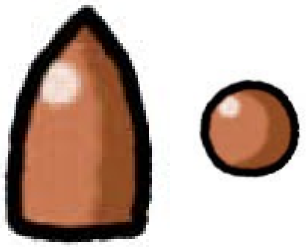


# I *calculi*

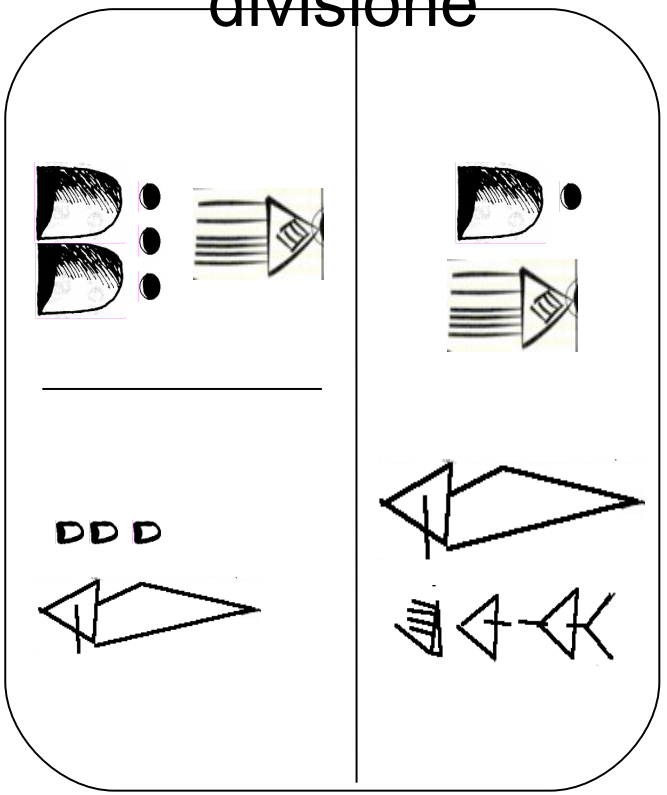
## Dividere



da dividere per tre



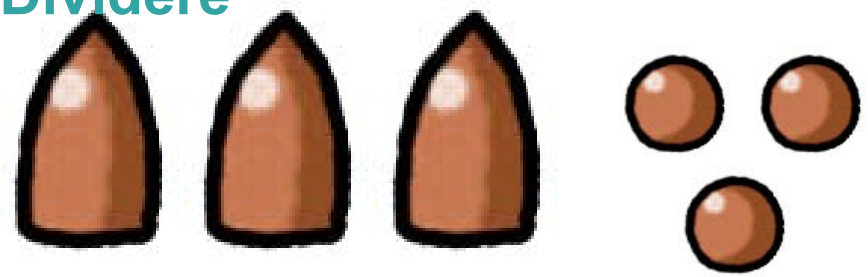
Un problema di divisione



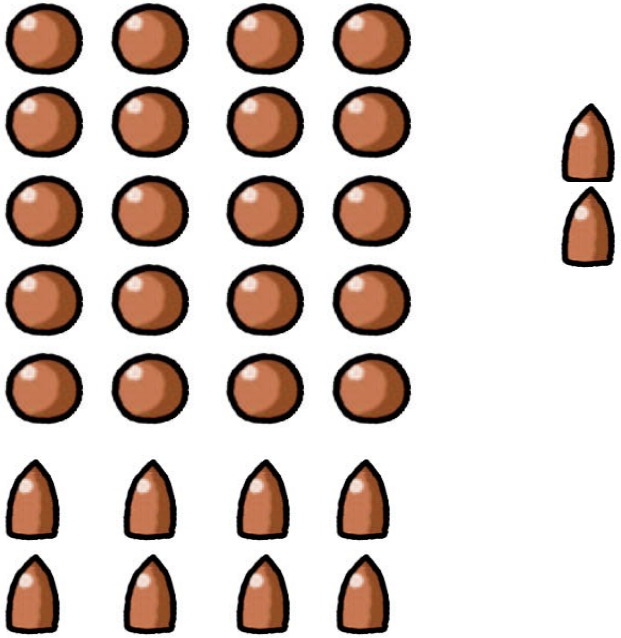
# Dai *calculi* alla scrittura

# I *calculi*

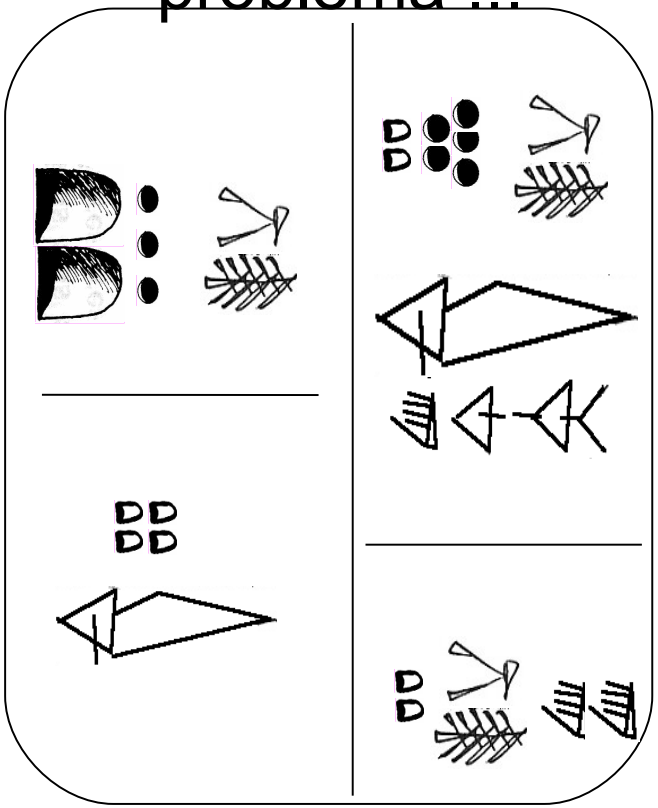
**Dividere**



da dividere fra quattro uomini

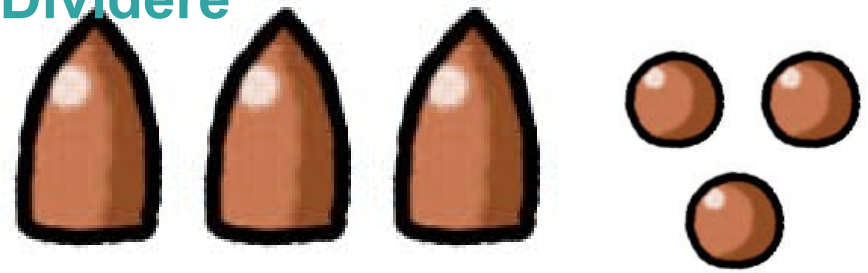


Abbiamo risolto il problema ...

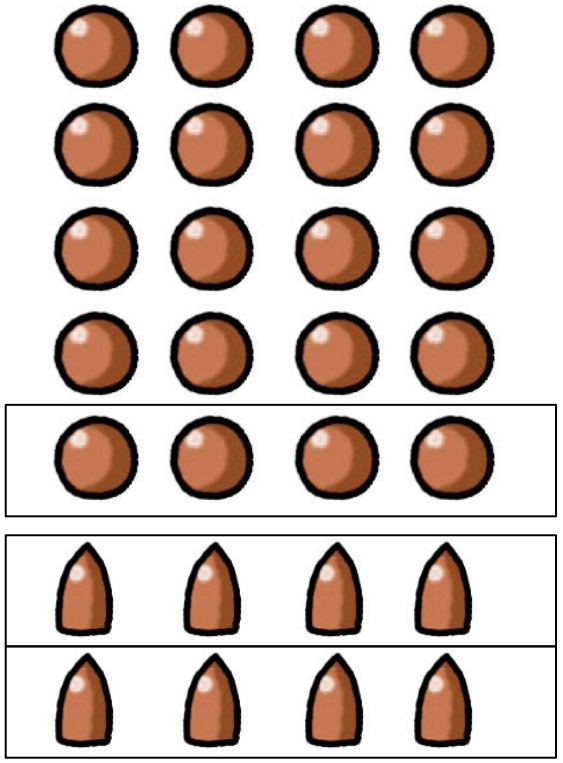


# I *calculi*

**Dividere**



da dividere in razioni da quattro sila

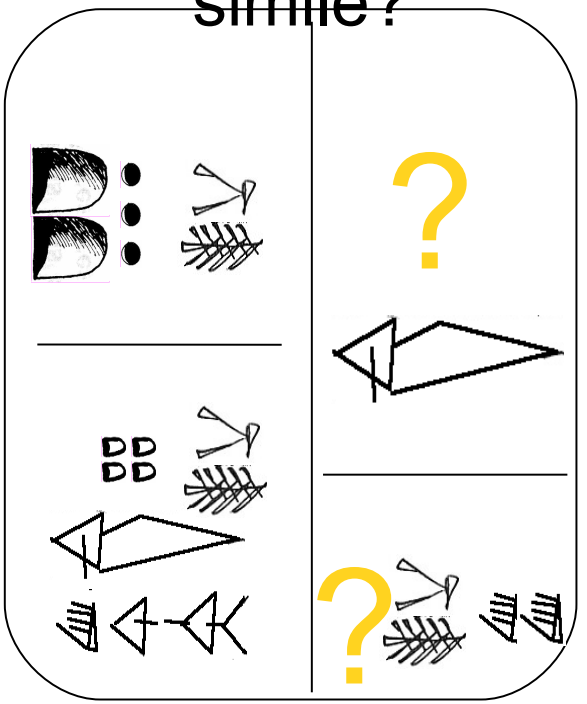


10 uomini

1 uomo

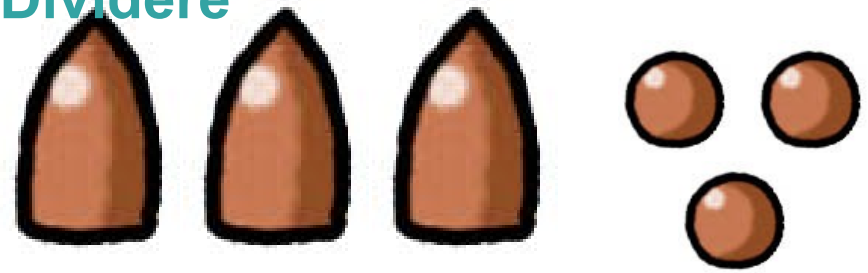
1 uomo

Un problema simile?



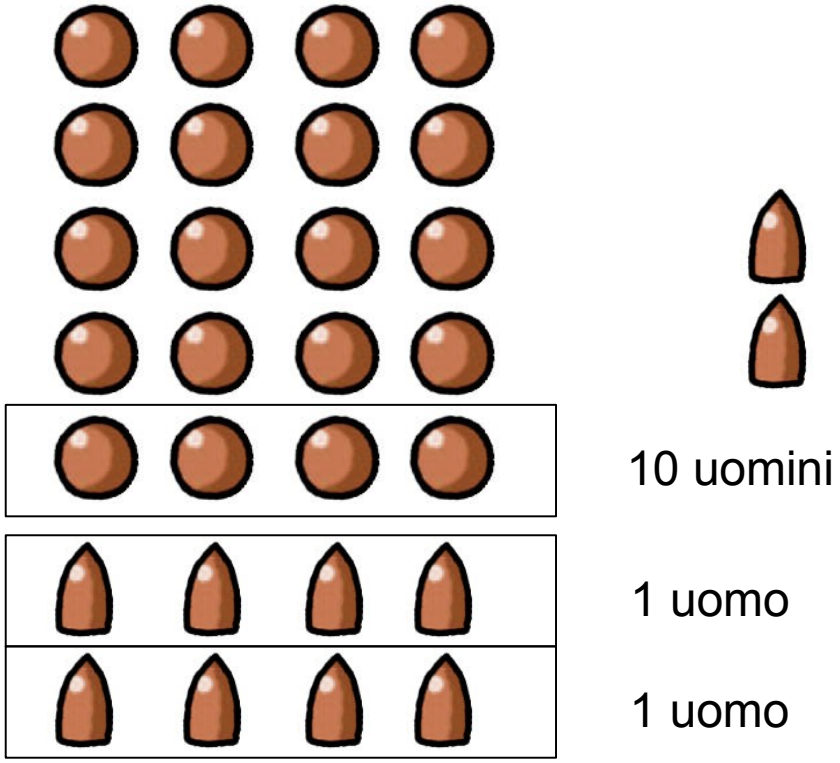
# I *calculi*

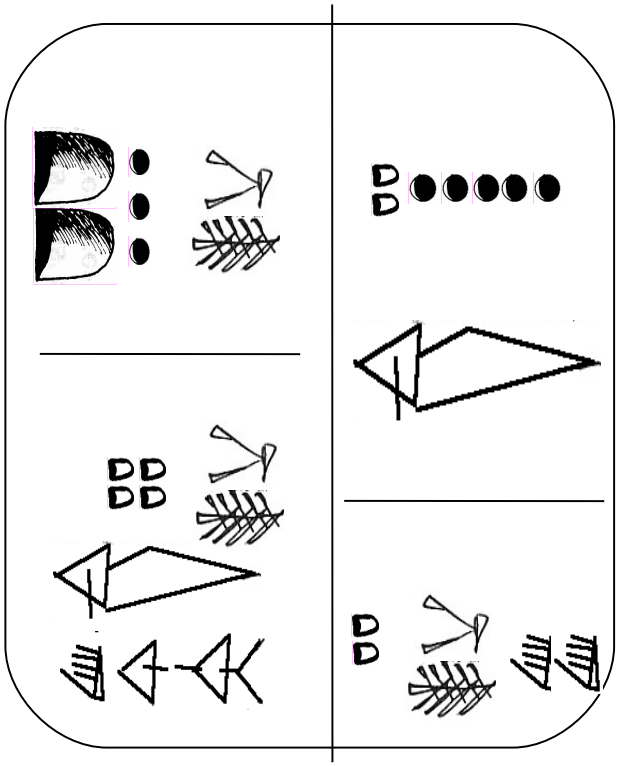
**Dividere**



da dividere in razioni da quattro sila

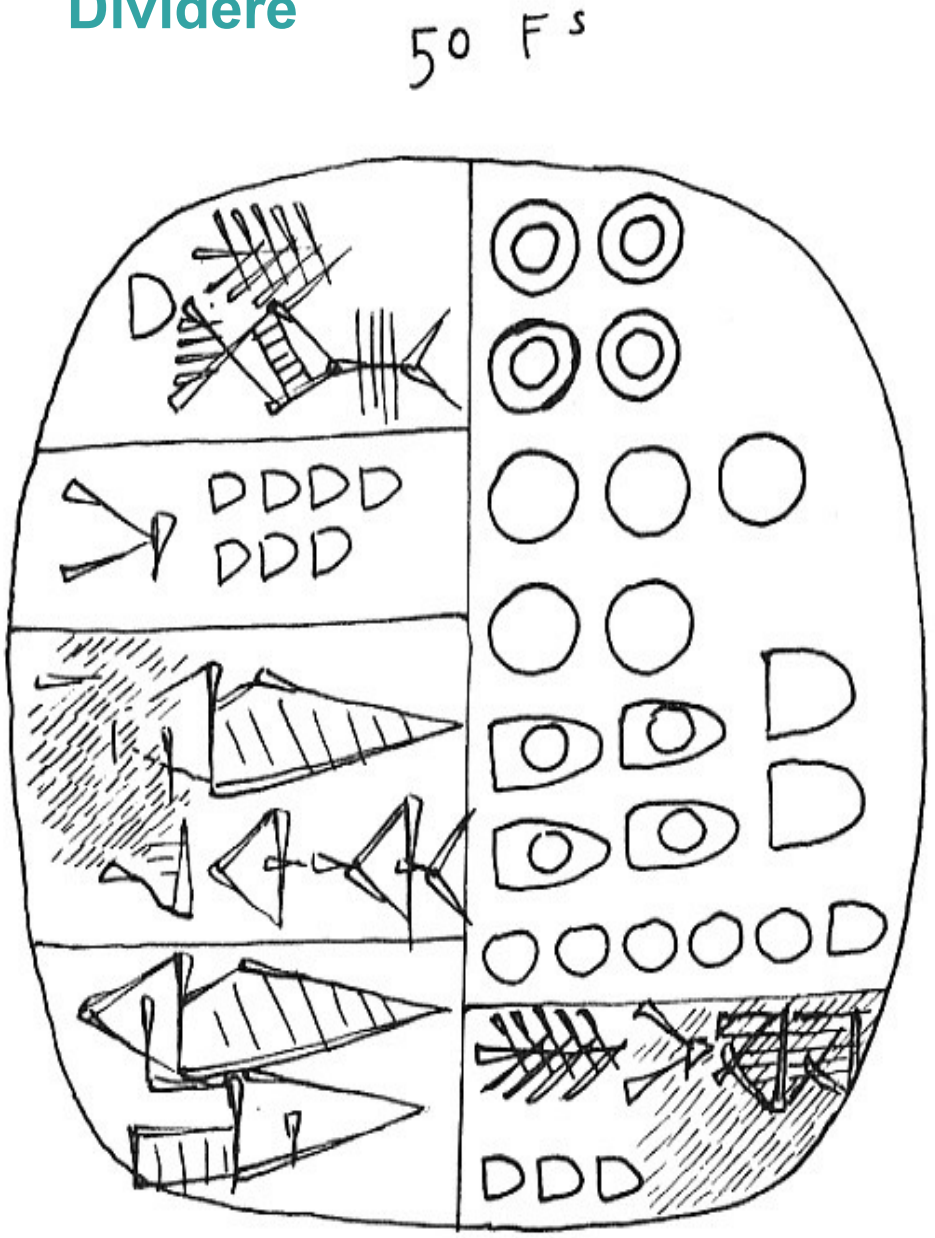
Un problema simile?
La soluzione

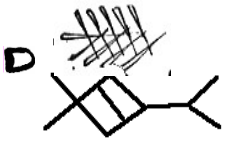


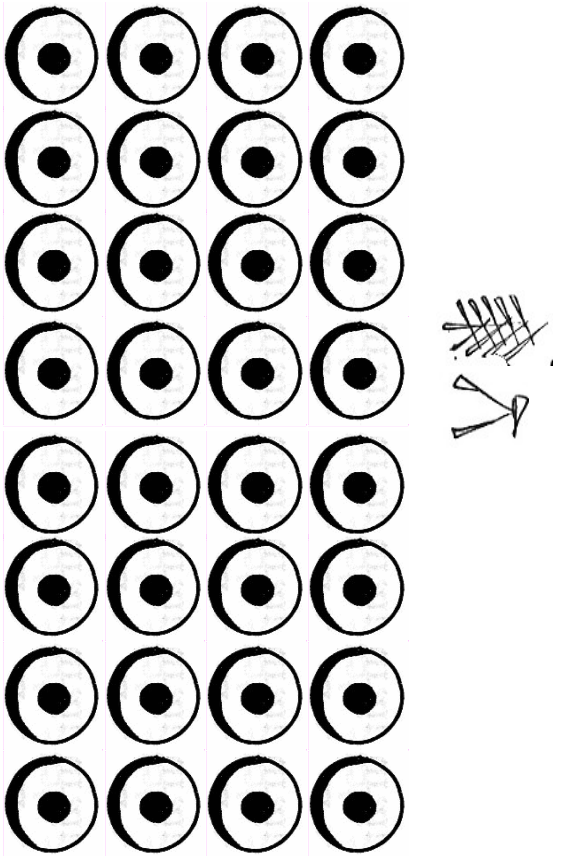



# I *calculi*

## Dividere





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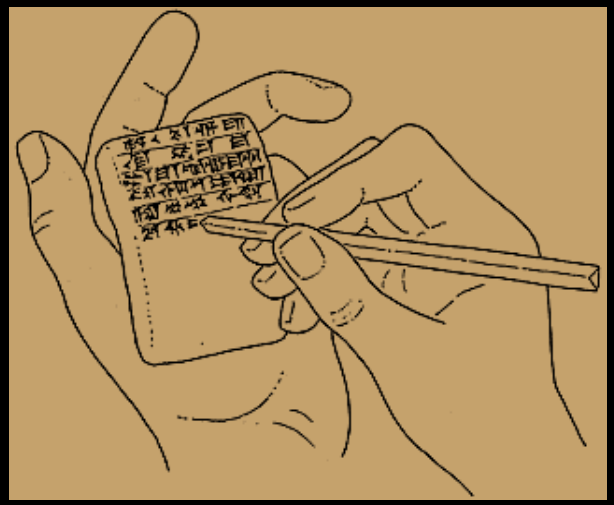
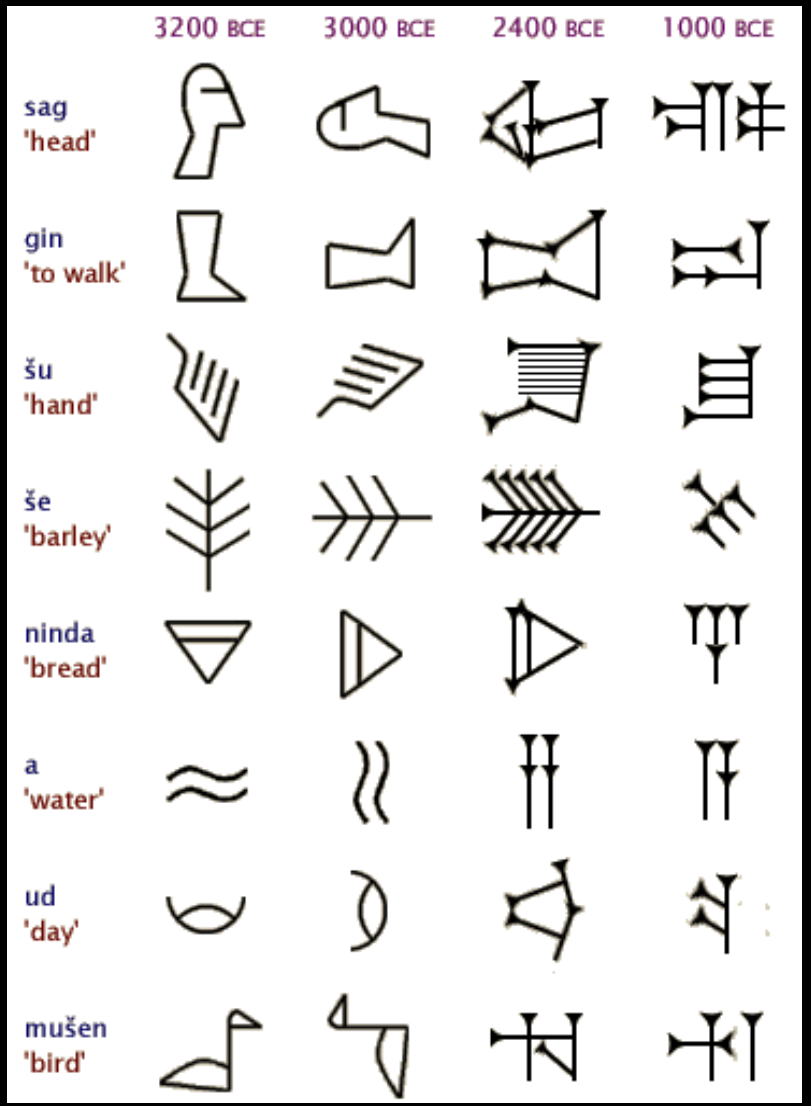
# La scrittura cuneiforme

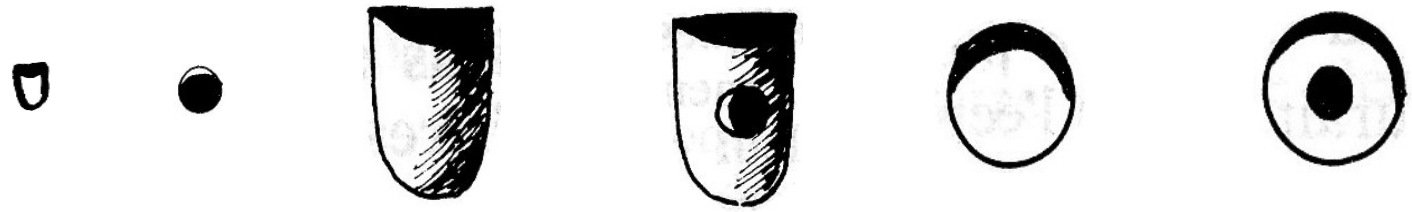
MS 2832
Solution algorithm for a combined market rate exercise.
Babylonia, 2000-1700 BC





# Dai *calculi* alla scrittura cuneiforme

*calculi sumeri*

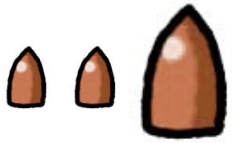


*curviforme sumera*

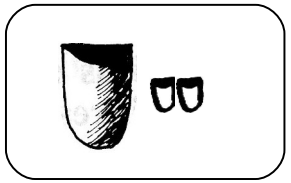
*cuneiforme sumera*

*posizionale babilonese*

# Dai *calculi* alla scrittura cuneiforme



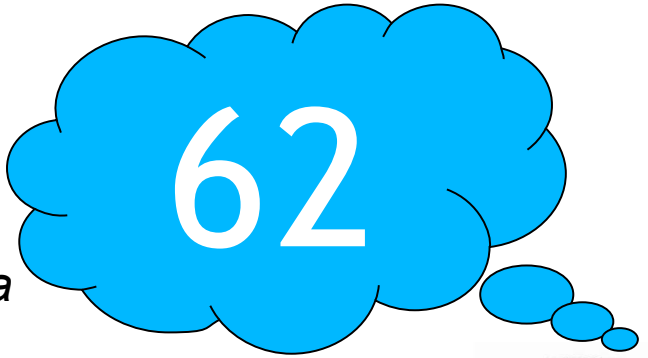
*calculi sumeri*



*curviforme sumera*

*cuneiforme sumera*

*babilonese*



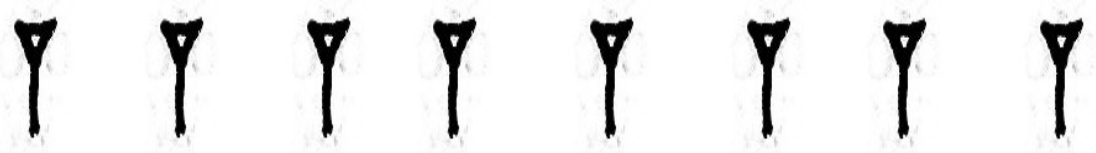

# La scrittura cuneiforme

Multipli di 10

# La scrittura cuneiforme

# La scrittura cuneiforme

# La scrittura cuneiforme



?

è il valore di

1+ 60 + 60x60 +60x60x60 + 60x60x60x60 + .... + 60x60x60x60x60x60x60x60

# La scrittura cuneiforme

MS 2351
Extremely large 15-place sexagesimal number. Babylonia, 19th c. BC

13 22 50 54 59 09 29 58 26 43 17 31 51 06 40

è il valore di 20 alla 20, cioè 104,857,600,000,000,000,000