

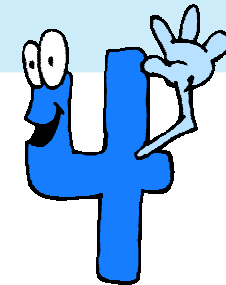


People



and

the quantitative world



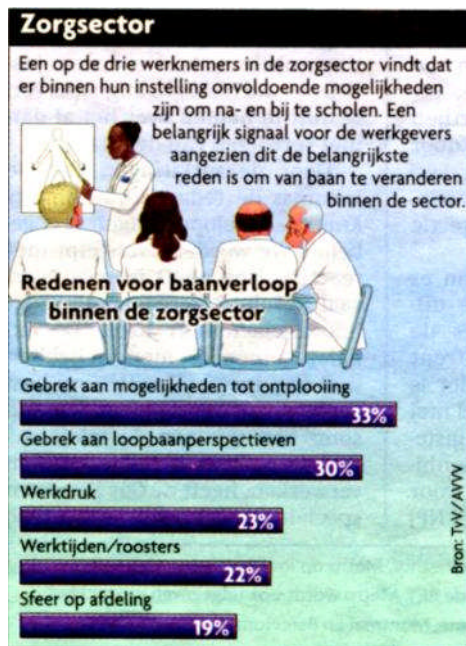
Kees Hoogland

European Mensas Annual Gathering
August 1, 2009



My fascination

- How do people cope with the quantitative aspects of the world around us?
 - What do they think?
 - How do they think?
 - What is basic numerate acting and thinking?



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Goals of Mathematics Education

- Introduction to a deductive and abstract system
- System of tools
(algebraic and arithmetic skills)
- Coping autonomously and adequately with the quantitative side of the world around us.



Geef bij de volgende opgaven de uitkomst in een zoveel mogelijk vereenvoudigde vorm

9.65

a. $\frac{5}{33} + \frac{9}{22} =$

b. $\frac{7}{24} - \frac{3}{16} =$

c. $\frac{13}{12} + \frac{4}{15} =$

d. $\frac{4}{9} \times \frac{4}{11} =$

e. $\frac{7}{5} : \frac{5}{7} =$

9.66

a. $\frac{27}{16} \times \frac{8}{15} =$

b. $\frac{4}{25} + \frac{24}{35} =$

c. $\frac{35}{48} \times \frac{40}{49} =$

d. $\frac{4}{9} - \frac{4}{11} =$

e. $\frac{21}{55} : \frac{7}{5} =$

9.67

a. $\frac{27}{16} - \frac{8}{15} =$

b. $\frac{4}{25} : \frac{24}{35} =$

c. $\frac{35}{48} + \frac{7}{8} =$

d. $\frac{44}{13} : \frac{121}{39} =$

e. $\frac{21}{55} + \frac{7}{5} =$

9.68

a. $\frac{\frac{5}{6} + \frac{2}{5}}{\frac{2}{3} + \frac{1}{6}} =$

b. $\frac{\frac{3}{4} + \frac{4}{3}}{\frac{3}{4} - \frac{1}{3}} =$

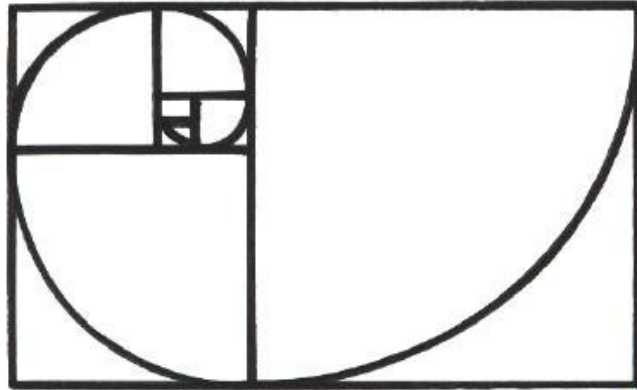
c. $\frac{\frac{7}{8} + \frac{1}{3}}{\frac{4}{5} + \frac{1}{4}} =$

9.69

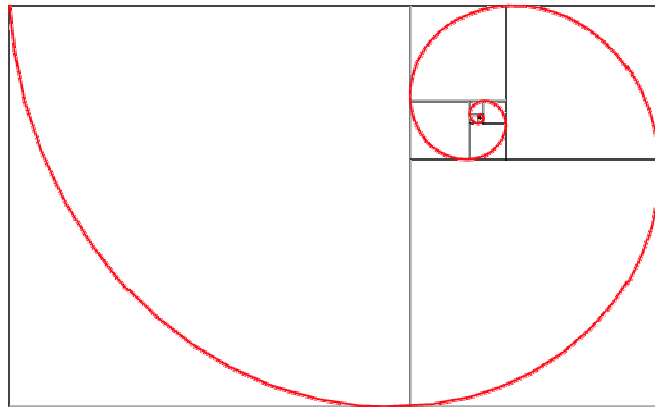
a. $\frac{\frac{5}{6} \times \frac{2}{5}}{\frac{2}{3} + \frac{1}{6}} =$

b. $\frac{\frac{3}{4} + \frac{4}{3}}{\frac{3}{4} : \frac{1}{3}} =$

c. $\frac{\frac{7}{8} + \frac{1}{3}}{\frac{4}{5} \times \frac{1}{4}} =$

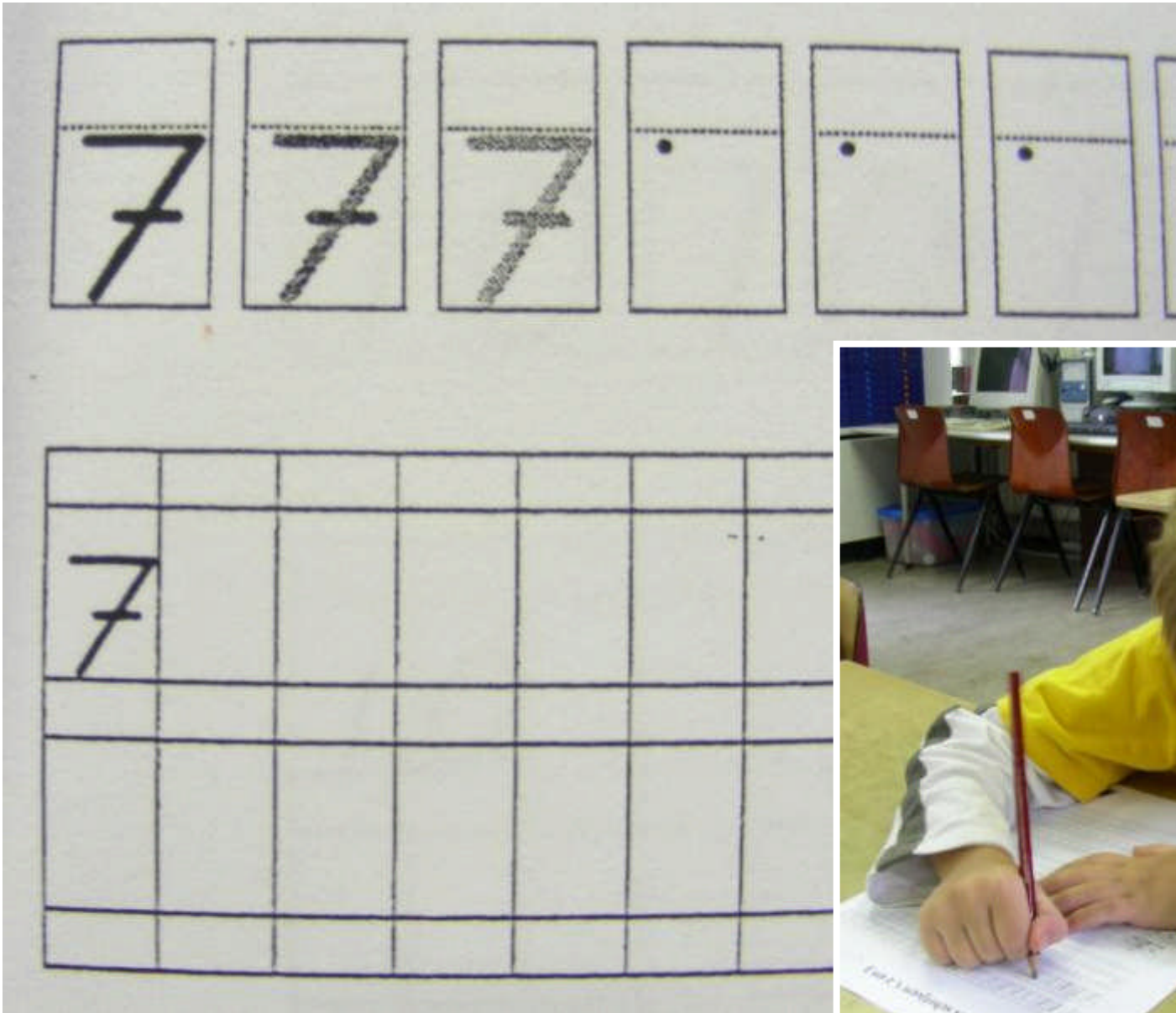


Golden spiral
Fibonacci spiral
Logistic spiral
Nautilus shell



How to draw a fibonacci spiral?

Fibonacci spiral







Numeracy /Mathematical Literacy



Definition:

“Knowledge, skills and personal qualities to adequately and autonomously cope with the quantitative world around us.”



Gecijferdheid, wiskundige geletterdheid en professionele gecijferdheid



Numeracy 

Mathematical literacy

Statistical literacy

Quantitative literacy 

Democratic mathematics

Quantitative reasoning 

La formación matemática 

Mathematische Kompetenz 

La culture mathématique 

Melek matematika 



$$\begin{array}{r} 180 \\ 200 \times \\ \hline 36000 \end{array}$$

??????



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Perspectives

- Multiplication structures
- History
- Embodied mathematics / Neurology
- (Un)Imaginable quantities
- Test
- The iceberg metaphor
- Radical Numeracy: display structures



Dinsdag	Woensdag	Donnerdag	Vrijdag	Zaterdag	Zondag	Maandag
15	15	16	16	16	17	17
28	28	28	28	29	30	30



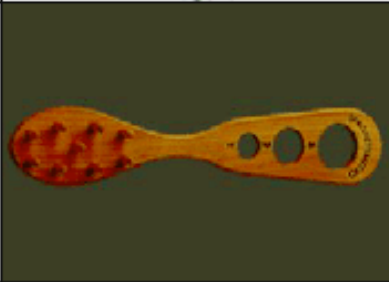
Gecijferdheid

numeracy / mathematical literacy



Naar inhoudsopgave

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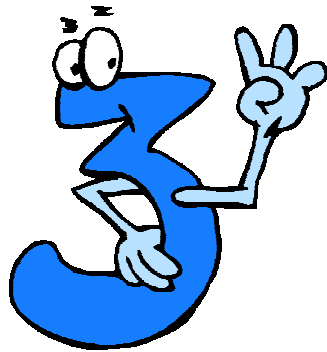
Kadın buda Koftea
500 gr lamsqeliekt
1 ml
120 gr geknakte rijst
120 gr zachte witte kaas
versquemaal zwarte peper
2 eieren
4 netlepels bloem
olyfolie
zout.

In opbouw.
Regelmatige
uitbreidingen.
Commentaar naar:
[Kees Hoogland](#)
25-10-2005



Interested?

For a copy of this presentation
or any other questions



Send an e-mail to

K.Hoogland@aps.nl

