Universiteit van Stellenbosch
Fakulteit Opvoedkunde
Departement Kurrikulumstudies
Vakdidaktiek Wiskundige Geletterdheid 174
Toets: 16 Mei 2005

Tyd: 3 uur
Punte: 180
Eksaminator:
A.I. Olivier

Beantwoord al die vrae

E-pos die volgende *drie* aanhangsels teen 22:00 aan aio"AT"sun.ac.za:

1. "JouVanSelfoon.xls"
2. "JouVanLyn.xls".
3. "JouVanWord.doc", wat al jou nie-Excel antwoorde bevat.

QUESTION 1

Open the MyCellPhone.xls workbook. You can use it as a tool to solve this problem.
Then you must *replicate* MyCellPhone.xls and save it as "YourNameCellphone.xls"
Write up other answers in MyWord.doc and save it as "YourNameWord.doc.

You are buying a new cellphone. You must decide: should you take the *PayCall* or the *BussCall* package? The details are shown in the table.

	PayCall	BussCall
Free minutes	0	0
Cost/month	0	R180
Cost/minute	R2,60	R1,60

(a) Complete a table in Excel to show how the costs differ, depending on the number of minutes you talk per month.

(b) Illustrate graphically how the cost changes depending on the time talked.

(c) Design a calculator to calculate the costs for any number of minutes.

(d) Where is the break even point where they cost the same? Find the break even point algebraically.

(e) When is Paycall cheaper than BussCall and when not?

[45]

VRAAG 2

Open die MyLyn.xls werkboek.
Maak 'n replika van die leeraktiwiteit. Save as "JouVanLyn.xls".

[45]

QUESTION 3

In January the petrol price is increased by 10%. Then, in February the petrol price is reduced by 10%. John says that the petrol price is now the same as it was before the first increase. Is this correct? Explain!

[25]

QUESTION 4

Check that $1 \div 7 = 0.142857142 \ldots$
The 1^{st} digit is 1, the 2^{nd} digit is 4, etc. What is the 2005^{th} digit in the decimal? Show your reasoning.

[25]

QUESTION 5

You know that in a regular triangle (i.e. an equilateral triangle) each angle is 60°. You also know that in a regular quadrilateral (i.e. a square), each angle is 90°, and you probably know that in a regular hexagon (i.e. a polygon with 6 sides) each angle is 120°. Investigate and find a formula for the relationship between the number of sides of a regular polygon and the size of one of its angles.
Draw a graph of the relationship.

[40]