

**GAUTENG DEPARTEMENT VAN ONDERWYS  
SENIOR SERTIFIKAAT EKSAMEN**

**HANDELSWISKUNDE SG**

**POSSIBLE ANSWERS OCT / NOV 2006**

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**VRAAG 1  
VERHOUDINGS, MENGSELS EN STATISTIEK**

1.1 1.1.1 Totaal:  $25\ 000 + 65\ 000 + 25\ 000 + 5\ 000 + 700\ 000 + 1\ 170\ 000 = 2\ 520\ 000$  ü  
 Gemiddeld:  $2\ 520\ 000 / 6 = 420\ 000$  ü (2)

1.1.2 Modus: 25 000 üü (2)

1.1.3 Mediaan (Stygende volgorde): 5 000 25 000 25 000 65 000  
 700 000 1 700 000

Mediaan:  $\frac{25\ 000 + 65\ 000}{2}$  ü

=  $\frac{90\ 000}{2}$  ü

= 45 000 ü (3)

1.2  $\frac{1}{2} : \frac{1}{3} : \frac{1}{4} = \frac{6:4:3}{12}$  ü

Totale aantal dele 13

A se deel :  $\frac{6}{13} \times \frac{7800}{1} = 3600$  ü  
 B se deel :  $\frac{4}{13} \times \frac{7800}{1} = 2400$  ü  
 C se deel :  $\frac{3}{13} \times \frac{7800}{1} = 1800$  ü (5)

1.3  $\frac{5}{6} \div \frac{1}{3} \times (0,2)^2$

=  $\frac{5}{6} \times \frac{3}{1} \times 0,04$  ü

=  $\frac{5}{2} \times 0,04$

= 0,10 ü (4)



3.2 Nomphe belê 25 000 vir 3 maande : 75 000 vir 1 week ü  
 + (25 000 – 10 000) 15 000 vir 9 maande : 135 000 vir 1 week ü  
 totaal : 210 000 vir 1 week ü

Cindy belê 30 000 vir 6 weke : 180 000 vir 1 week ü  
 + (30 000 + 5 000) 35 000 vir 6 weke : 210 000 vir 1 week ü  
 totaal : 390 000 vir 1 week ü

Ratio A : B = 210 000 : 390 000  
 21 : 39 ü  
 7 : 13 ü

(8)  
 [25]

#### VRAAG 4 WINS EN VERLIES

4.1 4.1.1 VP KP WINS  
 125 100 25  
 560 X

Kosprys van handelaar:  $\frac{R560 \times 100}{125}$  üüüü  
 = R448 üüü

(7)

4.1.2 Die KP van handelaar is VP van groothandelaar

VP KP Wins  
 100 88 12  
 448 x

KP van groothandelaar  $\frac{R448 \times 88}{100}$  üüüü  
 = R394,24 üüü

(7)

4.2 KP van artikel  $\frac{R544 \times 75}{100}$  üüü

= R408 ü

Wins: R544 – 408 üü

= R136 ü

Wins %:  $\frac{136}{408} \times \frac{100}{1}$  % üü

= 33  $\frac{1}{3}$  % ü

(8)



$$5.2 \quad 5.2.1 \quad \% \text{ inkomste} : \quad \frac{6}{36} \times \frac{100}{1} = 16 \frac{2}{3} \% \quad \ddot{\text{ü}} \quad \ddot{\text{ü}} \quad \ddot{\text{ü}} \quad (5)$$

$$5.2.2 \quad \text{Dividend} : \quad 15\% \text{ of } 75 = 11,25 \text{ sent} \quad \ddot{\text{ü}} \quad \ddot{\text{ü}}$$

$$\begin{aligned} \text{Inkomste} : \quad & \frac{11,25}{90} \times \frac{100}{1} \% \quad \ddot{\text{ü}} \quad \ddot{\text{ü}} \\ & = 12,5\% \quad \ddot{\text{ü}} \quad \ddot{\text{ü}} \end{aligned} \quad (6)$$

$$5.2.3 \quad \text{Dividend} : \quad \begin{aligned} & 15\% \text{ of } R3 \quad \ddot{\text{ü}} \quad \ddot{\text{ü}} \\ & = 45 \text{ sent} \quad \ddot{\text{ü}} \end{aligned}$$

$$\begin{aligned} \% \text{ inkomste} : \quad & \frac{45}{2,25} \times \frac{100}{1} \% \quad \ddot{\text{ü}} \quad \ddot{\text{ü}} \quad \ddot{\text{ü}} \\ & = 20\% \quad \ddot{\text{ü}} \end{aligned}$$

Belegging 5.2.3 is die mees winsgewende  $\ddot{\text{ü}}$  (8)

5.3 5.3.1 Inkomste vanuit verkope van ABC Aandele

$$= R3\,600/1 \times 80/100 \quad \ddot{\text{ü}} \quad \ddot{\text{ü}} \quad \ddot{\text{ü}}$$

$$= R2880 \quad \ddot{\text{ü}} \quad (4)$$

5.3.2 Nominale waarde van XYZ Aandele

$$= R2880 \times 100/125 \quad \ddot{\text{ü}} \quad \ddot{\text{ü}} \quad \ddot{\text{ü}}$$

$$= R2304 \quad \ddot{\text{ü}} \quad (4)$$

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### VRAAG 6 METING

6.1 Area v sirkel:  $?r^2 = 154m^2 \quad \ddot{\text{ü}}$

$$\begin{aligned} r^2 &= 154 \div \frac{22}{7} \quad \ddot{\text{ü}} \quad \ddot{\text{ü}} \\ &= 49 \quad \ddot{\text{ü}} \\ r &= 7 \quad \ddot{\text{ü}} \end{aligned}$$

$$\begin{aligned} \text{Omtrek v sirkel:} \quad & ? \times 2 \times 7 \\ &= \frac{22}{7} \times 2/1 \times 7/1 = 44m \quad \ddot{\text{ü}} \quad \ddot{\text{ü}} \quad \ddot{\text{ü}} \quad \ddot{\text{ü}} \end{aligned}$$

$$\text{Omtrek v wiel: } \frac{44}{20} = 2,2m \quad \ddot{\text{ü}} \quad \ddot{\text{ü}} \quad \ddot{\text{ü}} \quad (10)$$

6.2 Volume van pyp materiaal (V)

$$V = \pi R^2 h - \pi r^2 h$$

$$\pi r^2 h = \pi R^2 h - V$$

$$r^2 = \frac{\pi R^2 h - V}{\pi h}$$

$$= \frac{22}{7} \cdot \frac{4}{1} \times \frac{4}{1} \cdot \frac{140 - 3080}{1}$$

$$\frac{22}{7} \cdot \frac{140}{1}$$

$$= \frac{7\,040 - 3\,080}{440}$$

$$= \frac{3\,960}{440}$$

$$= 9 \text{ cm}$$

$$\therefore \text{Interne of binne radius} = \sqrt{9} = 3 \text{ cm} \quad (10)$$

$$\begin{aligned} 6.3 \quad s &= \frac{1}{2} (A + B + C) \\ &= \frac{1}{2} (8,7 + 6,3 + 6,0) \\ &= \frac{1}{2} (21,0) \\ &= 10,5 \text{ m} \end{aligned}$$

$$\begin{aligned} \text{Area} &= 10,5(10,5 - 8,7)(10,5 - 6,3)(10,5 - 6,0) \\ &= 10,5(1,8)(4,2)(4,5) \\ &= 18,90 \text{ m}^2 \end{aligned}$$

(9)

6.4 Area van sirkelvormige vloer:

$$\pi r^2 = 154 \text{ m}^2$$

$$r^2 = \frac{154}{\pi} \times \frac{7}{22}$$

$$= 49$$

$$\text{dus } r = 7$$

Volume van Dam:  $\pi r^2 h$

$$= \frac{22}{7} \cdot 700^2 \times 400 \text{ cm}^3$$

$$= 616000000 \text{ cm}^3$$

of

$$\frac{22}{7} \times 7^2 \times 4$$

$$= 616 \text{ m}^3$$

Aantal liters:  $616000000 \div 1000 = 616\,000$  liters

Dus 616 kiloliters is die kapasiteit van die dam.

(1000 l = 1 kiloliter)

alternatief

$$\begin{aligned} v &= \text{Basis oppv} \times \text{hoogte} \\ &= 154 \times 4\text{m}^3 \\ &= 616\text{m}^3 \end{aligned}$$

Kapasiteit v Dam: 616 000 l of 616 kl.  
(1m<sup>3</sup> = 1000 l of 1 kl.)

(10)

$$6.5 \quad 4r^2 = 616 \text{ cm}^2$$

$$r^2 = \frac{616}{4} \text{ cm}^2$$

$$= 154 \text{ cm}^2$$

$$r = \sqrt{154} = 12,41 \text{ cm}$$

(6)  
[45]

### VRAAG 7 RENTE, WAARDEVERMINDERING EN VERSEKERING

$$\begin{aligned} 7.1 \quad A &= P + \frac{PRT}{100} && \text{Mar 31} \\ & && \text{Apr 30} \\ & && \text{Mei 12} \\ P &= \frac{A}{1 + \frac{r}{100}} && \frac{73}{365} = \frac{1}{5} \\ &= \frac{100 \times A}{100 + rt} \\ &= \frac{100 \times 2000}{100 + 15 \times \frac{1}{5}} \\ &= \frac{100 \times 2000}{103} = \text{R}1941,75 \end{aligned} \quad (10)$$

$$\begin{aligned} 7.2 \quad \text{Reswaarde na 5 jaar} &= CP (1 - \frac{r}{100})^n \\ &= 60\,000 (1 - \frac{25}{100})^5 \\ &= 60\,000 (0,75)^5 \\ &= 60\,000 \times (0,75)^5 \\ &= \text{R}14\,238,28 \end{aligned} \quad (8)$$

$$\begin{aligned}
 7.3 \quad \text{Opsie A} \quad &: \quad A = P(1 + r/200)2^n \\
 &= 20\,000 (1 + 6/200)^6 \text{ üüüü} \\
 &= 20\,000 (1,03)^6 \text{ ü} \\
 &= R23\,881,05 \text{ üü}
 \end{aligned}$$

$$\begin{aligned}
 \text{Opsie B} \quad &: \quad A = P(1 + r/100)^n \\
 &= 20\,000 (1 + 8/100)^3 \text{ üüüü} \\
 &= 20\,000 (1,08)^3 \text{ ü} \\
 &= R25\,194,24 \text{ üü} \tag{14}
 \end{aligned}$$

Opsie B is die beste belegging.

$$\begin{aligned}
 7.4 \quad \text{Premie (p)} \quad &= \quad 55/100 \times 300\,000/100 \text{ üüü} \\
 &= \quad 1650 \text{ üü} \tag{5}
 \end{aligned}$$

Premie betaalbaar om ook premie te dek

$$\begin{aligned}
 &= \quad \frac{Vp/v-p}{300\,000 \times 1650/300\,000 - 1650} \\
 &= \quad \frac{300\,000 \times 1650}{298350} \\
 &= \quad R1659,13 \tag{8} \\
 &\tag{40}
 \end{aligned}$$

### VRAAG 8 ANNUÏTEITE

8.1 Jaarlikse paaiement

$$\begin{aligned}
 &= \quad \text{Bedrag verskuldig} \\
 &\quad A_{15} \text{ at } 5\% \\
 &= \quad \frac{518\,985 \text{ ü}}{10,3797 \text{ üü}} \\
 &= \quad R500\,00 \text{ ü} \tag{4}
 \end{aligned}$$

$$\begin{aligned}
 8.2 \quad P \quad &= \quad \frac{A}{S19 \text{ teen } 6\%} \\
 &= \quad \frac{168\,800 \text{ ü}}{33,76 \text{ üü}} \\
 &= \quad 5\,000 \text{ ü} \tag{4}
 \end{aligned}$$



8.3 Bedrag verskuldig na 8 jaar

$$\begin{aligned}
 &= P(S_9 - 1) \text{ teen } 4\% \\
 &= 4\,000 (10,5828 - 1) \text{ üüü} \\
 &= 4\,000 \times 9,5828 \text{ ü} \\
 &= R38331,20 \text{ üü}
 \end{aligned}
 \tag{6}$$

8.4 Huidige waarde v R1 p.a. vir 5 jaar teen  $4\frac{1}{2}\%$  p.a. = 4,39 ü

$$\begin{aligned}
 \text{PV v R1 p.a. van 'n annuïteit v R1 p.a. vir 6 jaar} &= 4,39 + 1 \text{ ü} \\
 &= 5,39 \text{ ü}
 \end{aligned}$$

$$\begin{aligned}
 \text{R16 170 koop 'n annuïteit van} &= \frac{16\,170 \text{ ü}}{5,39 \text{ ü}} \\
 &= 3\,000 \text{ ü}
 \end{aligned}$$

(6)  
[20]

### VRAAG 9 WISSELKOERSE EN BELASTING

9.1 Aantal VSA dollar:  $\$ \frac{19501,50 \text{ ü}}{6,5005 \text{ ü}} = \$3000 \text{ üü}$

(4)

9.2 Koste van VSA rekenaars:  $250 \times 6,5005 = R1625,13 \text{ üüüü}$

$$\text{Koste van Japan se rekenaars: } \frac{28000 \times 6,5005 \text{ üü}}{109,27 \text{ ü}}$$

$$= R1665,73 \text{ üü}$$

Voer in vanaf die VSA. ü

(10)

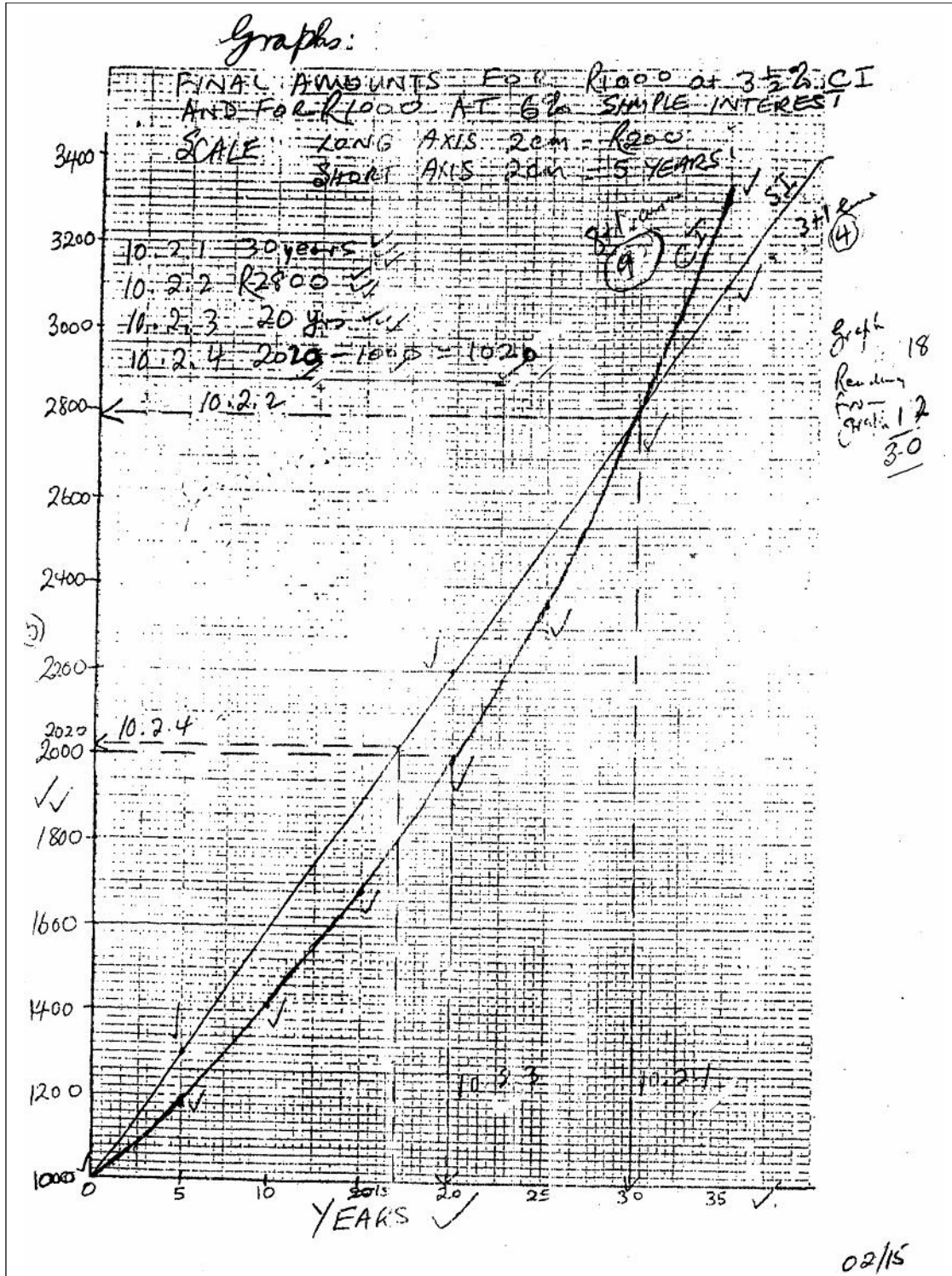
9.3 Koste van elektrisiteit:  $938\text{kw} \times 43,67/100 = R409,62 \text{ üüü}$   
Koste van water (45kl = 6+4+10+20+5)

6kl	Gratisü
4 x 3,60 kl.	R 14,40ü
5 x 4,80 per kl.	R 24,00ü
5 x 6,00 per kl.	R 30,00ü
20 x 7,19	R143,80ü
5 x 8,50	R 42,50ü
	<u>R254,70ü</u>

$$\text{Totale koste van verbruiker } R409,63 + R253,90 = R664,32 \text{ ü}$$

(11)  
[25]

VRAAG 10



(40)

TOTAL: 300