



NASIONALE SENIOR CERTIFIKAAT-EKSAMEN  
AANVULLINGSEKSAMEN – MAART 2018

**WISKUNDIGE GELETTERDHEID: VRAESTEL II**

**NASIENRIGLYNE**

Tyd: 3 uur

150 punte

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Hierdie nasienriglyne is opgestel vir gebruik deur eksaminators en sub-eksaminators van wie verwag word om almal 'n standaardiseringsvergadering by te woon om te verseker dat die riglyne konsekwent vertolk en toegepas word by die nasien van kandidate se skrifte.

Die IEB sal geen bespreking of korrespondensie oor enige nasienriglyne voer nie. Ons erken dat daar verskillende standpunte oor sommige aangeleenthede van beklemtoning of detail in die riglyne kan wees. Ons erken ook dat daar sonder die voordeel van die bywoning van 'n standaardiseringsvergadering verskillende vertolkings van die toepassing van die nasienriglyne kan wees.

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**Onderwerpe**

F	Finansies
MP	Kaarte en Planne
M	Meting
P	Waarskynlikheid
DH	Datahantering

## VRAAG 1

$$1.1 \quad 1.1.1 \quad 832\,000 \times 1\,000 \\ = 832\,000\,000 \text{ kg} \quad (3)$$

$$1.1.2 \quad 832\,000\,000 \text{ kg} \div 598\,950 \\ = 1\,389,10 \text{ kg/hektaar} \quad (3)$$

$$1.2 \quad \frac{14\,250\,000 - 9\,838\,500}{14\,250\,000} \times 100\% \\ = 30,96\% \quad (4)$$

$$1.3 \quad 55\,820 \times 100 \text{ m} \times 100 \text{ m} \\ = 558\,200\,000 \text{ m}^2 \quad (2)$$

$$1.4 \quad 73\,390 \text{ ton} = 73\,390 \text{ m}^3 \times 100 \times 100 \times 100 \\ = 73\,390\,000\,000 \text{ cm}^3$$

$$\therefore \text{Getal bokse} = 73\,390\,000\,000 \text{ cm}^3 \div 51\,770 \text{ cm}^3 \\ = 1\,417\,616,38 \\ = 1\,417\,617$$

**OF**

$$V \text{ boks} = 37,27^3 \\ = 0,3727^3 \\ = 0,05177 \text{ m}^3 \\ \therefore 73\,390 \div 0,05177 \\ = 1\,417\,616,38 \\ = 1\,417\,617 \text{ bokse} \quad (6)$$

$$1.5 \quad 1.5.1 \quad \% \text{-toename} = \frac{R16,20}{R23,80} \times 100\% \\ = 68,07\% \quad (4)$$

$$1.5.2 \quad R76,99 \times 1,0679 = R82,22$$

**OF**

$$R76,99 + R76,99 \times 6,79\% = R82,22 \quad (3)$$

$$\begin{aligned}
 1.6 \quad 1.6.1 \quad & 4 \times (48 \div 6) \\
 & = 4 \times 8 \\
 & = 32
 \end{aligned}
 \tag{3}$$

$$\begin{aligned}
 1.6.2 \quad & 18 \text{ min} \times (48 \div 12) \\
 & = 18 \text{ min} \times 4 \text{ panne} + 3 \times 3 \\
 & = 72 \text{ min} + 9 \\
 & = 81 \text{ min}
 \end{aligned}$$

$$\therefore 10:00 + 81 \text{ min}$$

$$= 11:21$$

Sy is verkeerd. (7)

$$\begin{aligned}
 1.6.3 \quad & 390 \text{ }^{\circ}\text{F} = \frac{9}{5} \text{ }^{\circ}\text{C} + 32^{\circ} \\
 & 390 \text{ }^{\circ}\text{F} - 32 \text{ }^{\circ}\text{C} = \frac{9}{5} \text{ }^{\circ}\text{C} \\
 & 358 \text{ }^{\circ}\text{F} = \frac{9}{5} \text{ }^{\circ}\text{C} \\
 & \frac{358 \text{ }^{\circ}\text{F}}{\frac{9}{5}} = \text{ }^{\circ}\text{C} \\
 & 198,89^{\circ} = \text{ }^{\circ}\text{C} \\
 & 200 \text{ }^{\circ}\text{C}
 \end{aligned}
 \tag{4}$$

$$\begin{aligned}
 1.6.4 \quad & 259 \text{ Cal} \div 3 \times 4 \\
 & = 345,33 \text{ Cal}
 \end{aligned}
 \tag{3}$$

**[42]**

## VRAAG 2

2.1    2.1.1     $3\,300 \times 0,12$

$$£396 \div 0,06$$

$$= R6\,600$$

$$(R8\,498 \times 2) + (3\,300 \text{ joean} \times 11) + R36\,685$$

$$= R16\,992 + (R6\,600 \times 11) + R36\,685$$

$$= R126\,281 \quad (8)$$

2.1.2     $2 \text{ uur } 40 \text{ min} + 3 \text{ uur } 20$

$$= 6 \text{ uur} \quad (2)$$

2.1.3     $1 \text{ cm} : 250 \text{ km}$

$$8,1 \text{ cm} \times 250$$

$$= 2\,025 \text{ km} \quad (4)$$

2.2    2.2.1     $A = S \times T$

$$\text{Spoed} = 10,2 \text{ km} \div \frac{18}{60}$$

$$= 34 \text{ km/h} \quad (3)$$

2.2.2     $09:20 + 18 \text{ min} + 3\text{h } 30 \text{ min} + 23 \text{ min}$

$$= 13:31 \text{ of } 1.31 \text{ nm.} \quad (4)$$

2.3    2.3.1     $1,3 : 7,5$

$$13 : 75 \quad (2)$$

2.3.2     $A = 1\,300\,000\,000 \times 1,0113$

$$= 1\,314\,690\,000$$

$$B = 1\,314\,690\,000 \times 1,0113$$

$$= 1\,329\,545\,997 \quad (4)$$

$$2.3.3 \quad \frac{1\,300\,000\,000 \text{ mense}}{9\,597\,000 \text{ km}^2}$$

$$= 135,46 \text{ mense per km}^2 \text{ (Aanvaar 135 en 136)} \quad (3)$$

$$2.3.4 \quad 7,5 \text{ biljoen} \div 5$$

$$= 1,5 \text{ biljoen OF } 1\,500\,000\,000 \quad (2)$$

$$2.3.5 \quad 40\,075 \times 2$$

$$= 80\,150 \text{ km} \quad (2)$$

**[34]**

### VRAAG 3

$$3.1 \quad 3.1.1 \quad \frac{22\,565}{10} = 2\,256,5 \text{ (Aanvaar 2\,256 en 2\,257)} \quad (3)$$

$$3.1.2 \quad \frac{17\,846 + A}{10} = 1\,899,3$$

$$A = 1\,899,3 \times 10 - 17\,846$$

$$A = 1\,147 \quad (5)$$

$$3.1.3 \quad \frac{1515 + 1919}{2}$$

$$= 1\,717 \quad (3)$$

$$3.1.4 \quad \text{Volkswagen Polo Vivo} \quad (2)$$

$$3.2 \quad 9\,797\,413 \times 28\%$$

$$= 2\,743\,275,64 \text{ voertuie}$$

$$\text{(Aanvaar 2\,743\,275 en 2\,743\,276)} \quad (2)$$

- 3.3 3.3.1 Thabo het nie 18,3% en 24,6% na desimale of breuke herlei nie (of %-sleutel op sakrekenaar gebruik nie) Sluit %-sleutel uit.

$$R120\,000 \times 18,3\%$$

$$= R21\,960$$

$$R150\,000 \times 24,6\% \text{ (dieselfde metodepunt)}$$

$$= R36\,900$$

$$\therefore \text{Verskil} = R36\,900 - R21\,960$$

$$= R14\,940$$

(5)

- 3.3.2 Minder mense lees koerante (sigkopie), dus van minder waarde om in koerante te adverteer. Baie mense lees aanlyn, adverteer dus aanlyn.

(2)

**[22]**

#### VRAAG 4

- 4.1 4.1.1 Oppervlakte =  $5,55\text{ m} \times 2,4\text{ m} = 13,32\text{ m}^2$

$$13,32 \times 2 = 26,4\text{ m}^2$$

$$26,4 \div 6,3 = 4,19\text{ l}$$

$$= 5\text{ l}$$

$$5\text{ l} \times R90 = R450$$

Ek sal nie genoeg geld hê nie.

(6)

- 4.1.2  $178,6 \times 2$

$$\therefore 357,2\text{ cm}$$

$$= 3,572\text{ m}$$

$\therefore$  twee lessenaars sal inpas

(3)

- 4.1.3  $A = 3,14 \times (800\text{ mm})^2 \div 4$

$$= 502\,400\text{ mm}^2$$

(2)

- 4.2 4.2.1  $E = R1\,200 + R350 \times \text{Getal advertensies}$

(2)

- 4.2.2  $A = R1\,000 \times 3$

$$= R3\,000$$

$$B = 15\,000 \div 1\,000$$

$$= 15$$

(4)

4.2.3 Op Antwoordblad (6)

4.2.4 5 (2)

4.2.5 Ja – slegs 2 bestellings sal 'n wins oplewer. (2)

4.3 4.3.1 Opsie 1: R25 999

Opsie 2:  $R22\,718,42 \times 1,14$

= R25 898,998

= R25 899

OF

$R22\,718,42 + 0,14 \times R22\,718,42$

= R25 899

∴ Opsie 2 is 'n beter transaksie.

(3)

4.3.2  $R1\,263 \times 24 - R25\,999$

= R30 312 – R25 999

= R4 313

(3)

4.3.3 • Die prys lyk minder omdat dit BTW uitsluit.

• Die terugbetalings lyk minder, maar is oor 36 en nie 24 maande nie.

(2)

4.4  $R275\,000 - R0 \text{ belasting} = R275\,000$

$R740\,000 - [1\,650 + 2\% \times (740\,000 - 500\,000)]$

=  $R740\,000 - [R1\,650 + 2\% \times R240\,000]$

=  $R740\,000 - (R1\,650 + R4\,800)$

=  $R740\,000 - R6\,450$

= R733 550

∴  $R275\,000 + R733\,550$

= R1 008 550

(7)

**[42]**

## VRAAG 5

$$\begin{array}{ll}
 5.1 & 5.1.1 \quad 1 - \left( \frac{9}{35} + \frac{9}{35} + \frac{6}{35} \right) \quad \text{OF} \quad \frac{12}{21} \times \frac{11}{20} \\
 & = \frac{11}{35} \quad \quad \quad = \frac{11}{35} \quad (3)
 \end{array}$$

$$\begin{array}{l}
 5.1.2 \quad \frac{9}{35} + \frac{9}{35} + \frac{6}{35} \\
 = \frac{24}{35} \\
 \text{OF} \\
 \frac{35}{35} - \frac{11}{35} \\
 = \frac{24}{35} \quad (3)
 \end{array}$$

$$\begin{array}{l}
 5.2 \quad \frac{12}{21} \times \frac{11}{20} \times \frac{10}{19} \\
 = \frac{22}{133} \times 100 \\
 = 16,54\% \quad (4)
 \end{array}$$

**[10]**

**Totaal: 150 punte**