



NASIONALE SENIORSERTIFIKAAT-EKSAMEN
NOVEMBER 2016

WISKUNDIGE GELETTERDHEID: VRAESTEL I

NASIENRIGLYNE

Tyd: 3 uur

150 punte

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.

VRAAG 1

- 1.1 31/12/2015 (2)
- 1.2 $R925,58 \div R1\ 036,60 \times 100 = 89,29\%$
 OF $R811,92 \div R909,31 \times 100 = 89,29\%$
 OF $R89,74 + R12,56 = R102,30$
 OF $R1,90 + R30,20 + R12,55 + R57,65 = 102,30$ (4)
- 1.3 1.3.1 $A = R1\ 036,60 - 8,72 - 925,58 = R102,30$
 OF $12,56 \div 0,14 \times 1,14 = R102,27$ (2)
- 1.3.2 $B = R1\ 036,60 - R127,29 = R909,31$
 OF $R127,29 \div 0,14 \times 1 = R909,21$
 OF $R1\ 036,60 \div 1,14 = R909,30$
 OF $R811,92 + 89,74 + 7,65 = R909,31$ (2)
- 1.3.3 $C = R909,31 - R7,65 - R811,92 = R89,74$
 OF $R12,56 \div 14\% = R89,71$
 OF $R102,30 - R12,56 = R89,74$
 OF $R1,67 + R26,49 + R11,01 + R50,57 = R89,74$ (2)
- 1.3.4 $D = R89,74 - R50,57 - R26,49 - R1,67 = R11,01$
 OF $R12,55 - R1,54 = R11,01$ (2)
- 1.4 $R15,79 \times 14\% = R2,21$ (2)
- 1.5 $R7,65 \div 5 = R1,53$ (2)
- 1.6 1.6.1 $1:33 = 60 + 33 = 93$ sek (3)
- 1.6.2 $R2,04 \div 93 = R0,02 = 2,2$ sent
 OF $204 \text{ sent} \div 93 = 2,19$ sent (3)

[24]

VRAAG 2

- 2.1 $90 \text{ cm} - 1 \text{ cm} - 1 \text{ cm} = 88 \text{ cm}$ (3)
- 2.2 $88 \text{ cm} \div 8,1 \text{ cm}$
 $= 10,86$
 $= 10$ lêers (3)
- 2.3 $31,5 \times 2,54$
 $= 80,01$
 $= 80 \text{ cm}$ (3)
- 2.4 $80 \text{ cm} - 2 \text{ cm} - 1 \text{ cm} - 1 \text{ cm} - 35 \text{ cm}$
 $= 41 \text{ cm}$ (4)
- 2.5 2.5.1 $A = l \times b$
 $= 90 \text{ cm} \times 80 \text{ cm}$
 $= 7\ 200 \text{ cm}^2$ (3)
- 2.5.2 $7\ 200 \text{ cm}^2 \div 10\ 000$
 $= 0,72 \text{ m}^2$ (2)
- 2.5.3 $0,72 \text{ m}^2 \div 6$
 $= 0,12 \ell$ (2)
- 2.5.4 $0,12 \ell \times 1\ 000$
 $= 120 \text{ m}\ell$ (2)

[22]

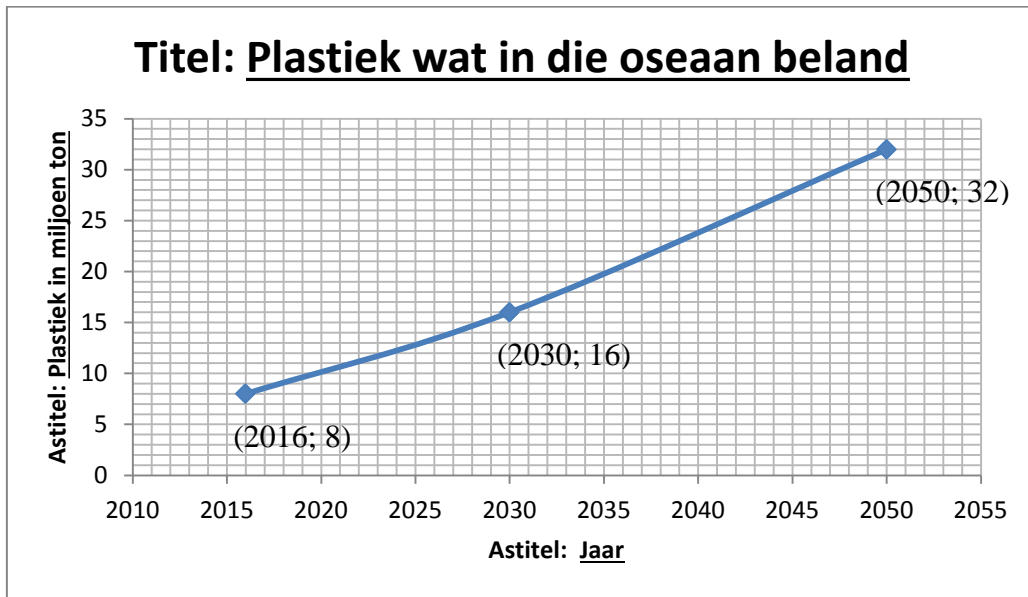
VRAAG 3

- 3.1 3.1.1 486 km (2)
- 3.1.2 Suidelike rigting
OF Suidoostelik (2)
- 3.1.3 N3 (2)
- 3.1.4 (a) 35×13
 $= 455$ km (2)
- (b) Nee, sy sal nie met een tenk petrol kan ry nie. (2)
- 3.2 3.2.1 $a = 3,5$ cm (aanvaar tussen 3,3–3,7) (2)
- 3.2.2 $b = 1,5$ m \times 100
 $= 150$ cm (2)
- 3.2.3 1 : 42,86 (aanvaar tussen 45,45–40,54) (2)
- 3.2.4 14,8 cm (aanvaar tussen 14,6–15) (2)
- 3.2.5 $14,8 \times 42,86 = 634,33 \div 100 = 6,34$ (aanvaar tussen 6,25–6,43) (3)
- 3.2.6 $\frac{5}{25} = \frac{1}{5}$ OF 0,2 OF 20% (2)

[23]**VRAAG 4**

- 4.1 $2050 - 2017 = 33 + 1 = 34$ jaar (2)
- 4.2 8 miljoen ton of 8 000 000 ton (2)
- 4.3 $8\,000\,000 \times 1\,000$
8 000 000 000 kg (2)
- 4.4 (a) $913,24 \times 24 = 21\,917,76$ t
OF $8\,000\,000 \div 365 = 21\,917,81$ t (2)
- (b) $913,24 \div 60 = 15,22$ t
OF $8\,000\,000 \div 365 \div 24 \div 60 = 15,22$ t (2)
- 4.5 15,22 t (aanvaar 15 t) (2)
- 4.6 $4 \times 15,22 = 60,88$ t (2)

4.7 4.7.1



(6)

4.7.2 24 miljoen t

(2)

4.8 4.8.1 2002–2010

(2)

4.8.2 China (aanvaar Shanghai)

(2)

4.8.3 (a) $34 - 4,2 = 29,8\%$

(3)

(b)
$$\frac{34 + 27 + 26,8 + 22 + 18 + 13 + 12,5 + 12 + 11,5 + 4,2}{10}$$

$$= \frac{181}{10}$$

$$= 18,1\%$$

(4)

(c)
$$\frac{13 + 18}{2} = 15,5 \%$$

(3)

[36]

VRAAG 5

5.1 $700\ 000 + 41\ 000 + 225\ 900 + 100\ 000 + 135\ 000 + 70\ 000 = R1\ 271\ 900$ (3)

5.2 5.2.1 Standard Bank MoneyMarket-daggeldrekening (2)

5.2.2 $J_1: 700\ 000 \times 105,65\% = 739\ 550$
 $J_2: 739\ 550 \times 105,65\% = 781\ 334,58$ (5)

OF $A = 700\ 000(1 + 5,65\%)^2 = 781\ 334,58$

Enkelvoudige Rente-opsie

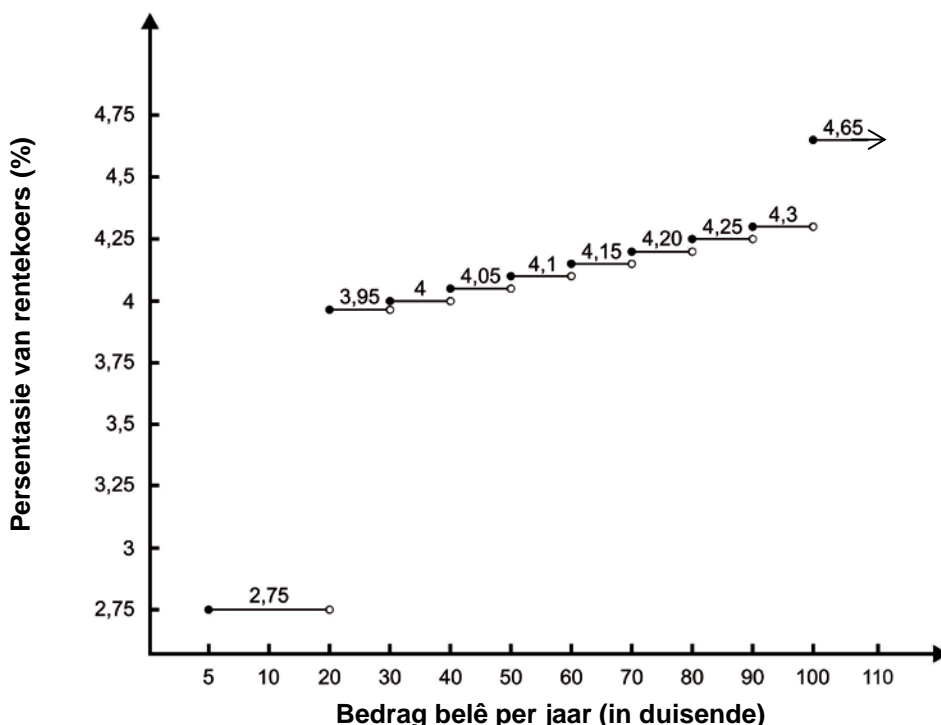
$700\ 000 \times 5,65\% = 39\ 550$

$700\ 000 + 39\ 550 \times 2 = 779\ 100$

OF $A = 700\ 000 (1+5,65\% \times 2) = 779\ 100$ (5)

5.2.3

TITEL: GRAFIEK WAT MONEY ON CALL-REKENING (FNB) TOON



(6)

5.3 5.3.1 $225\ 900 \times 0,83 = 187\ 497$
 $187\ 497 \times 0,83 = R155\ 622,51$
 OF $A = 225\ 900 (1 - 17\%)^2 = 155\ 622,51$

Enkelvoudige rente-opsie

$225\ 900 \times 17\% = 38\ 403$

$225\ 900 - (38403 \times 2) = 149\ 094$

OF $A = 225\ 900 (1 - 17\% \times 2) = 149\ 094$ (4)

5.3.2 $225\ 900 \times 109,2\% = 246\ 682,80$
 $246\ 682,80 \times 109,2\% = R\ 269\ 377,62$ (4)

5.3.3 $269\ 377,62 - 155\ 622,51 = R113\ 755,11$ (2)

5.4 5.4.1 $50 \times 10 = 500$ mense (3)

5.4.2 $500 \times R450 = R225\ 000$ (2)

5.5 5.5.1 $A = \pi r^2$

$$\begin{aligned} A &= 3,14 \times (2,5)^2 \\ A &= 19,63 \text{ m}^2 \\ &= 20 \text{ m}^2 \end{aligned} \quad (3)$$

5.5.2 (a) $A = 2\pi rh$
 $A = 2 \times 3,14 \times (2,5) (1,2)$
 $A = 18,84 \text{ m}^2$ (2)

(b) $18,84 \div 2,4 = 7,85 \approx 8 \text{ l} \therefore 8 \text{ blikke}$ (3)

5.6 5.6.1 1 OF 100% OF $\frac{5}{5}$ OF beslis/vir seker (2)

5.6.2 $\frac{1}{5} \times 100$
 $= 20\%$ (4)
[45]

Totaal: 150 punte