

WISKUNDIGE GELETTERDHEID: VRAESTEL II

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.

Sleutel: akkuraatheid
metode
metodeakkuraatheid
deurlopende akkuraatheid
afronding

Onderwerpe

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

VRAAG 1

1.1 Saterdag 2 nm. – 4:30 nm.

2 nm. – 1:15 nm.

= 45 min voor donker (5)

1.2 6:55 nm. – 4:30 nm.

= 2 uur 25 min (4)

$$\begin{aligned} 1.3 \quad \% \text{ afslag} &= \frac{R249,99 - R199,99}{R249,99} \times 100\% \\ &= 20,00 \dots \\ &= 20\% \end{aligned} \quad (4)$$

$$\begin{aligned} 1.4 \quad R123,50 \times \frac{100}{65} \\ = R190 \end{aligned} \quad (3)$$

$$1.5 \quad 1.5.1 \quad \frac{3}{12} = \frac{1}{4} \quad (2)$$

$$1.5.2 \quad \frac{2}{12} \times 100 = 16,666 \dots = 17\% \quad (4)$$

$$1.5.3 \quad \frac{4}{32} \times 40 = 5 \quad (4)$$

1.5.4 Boomdiagram 3 (2)
[28]

VRAAG 2

$$2.1 \quad (a) \quad = 1 \times 5 \text{ hrs} \times 0,5 \text{ kWh} = 2,5 \text{ kWh} \times 7 \\ = 17,5 \text{ kWh}$$

$$(b) \quad = 1,5 \text{ kWh} \div 60 = 0,025 \text{ kW}$$

$$(c) \quad = 210 \text{ kWh} \div 2,5 \text{ kWh} = 84 \div 7 \\ = 12 \text{ hrs/day}$$

OF

$$210 \text{ kWh} \div 7 = 30 \text{ kWh}$$

$$30 \text{ kWh} \div 2,5 \text{ kWh} \\ = 12$$

$$(d) \quad = 1 \quad (13)$$

$$2.2 \quad 2.2.1 \quad 36\,500 \text{ MW} \times 1\,000 = 36\,500\,000 \text{ kW} \quad (2)$$

$$2.2.2 \quad 30\,000 \text{ MW} - 25\,000 \text{ MW} \\ = 5\,000 \text{ MW} \\ \therefore \frac{5\,000}{25\,000} \times 100 \\ = 20\% \quad (5)$$

$$2.2.3 \quad 36\,500 \text{ MW} - 25\,000 \\ = 11\,500 \text{ W} \quad (3)$$

$$2.2.4 \quad 1\,000 \times 1\,000 = 1\,000\,000 \quad \text{Elek./uur} = 1\,100 \text{ kW} \div 30 \div 24 \\ 1\,000\,000 \div (1\,100 \div 30 \div 24 \times 2,5 \text{ ure}) = 1,53 \text{ kW/h} \\ = 1\,000\,000 \div 3,82 \quad \text{OF} \quad \therefore \text{in 2 uur} = 1,53 \times 2,5 \\ = 261\,780,10 \dots = 3,82 \text{ kW} \\ = 261\,781 \text{ huise} \\ 1\,000\,000 \div 3,82 \text{ kW} \\ = 261\,780,10 \dots \\ = 261\,781 \text{ huise}$$

Let op: As afronding slegs in finale berekening plaasgevind het, 261 818,18 huise. \therefore 261 819 huise.

(8)
[31]

VRAAG 3

3.1 Die lengtes is almal dieselfde. (4,5 cm) (2)

3.2 $4,5 \text{ cm} \times 60 = 270 \text{ cm}$
 $= 2,7 \text{ m}$ **OF** $2,7 \text{ m} = 270 \text{ cm}$
 $270 \text{ cm} \div 4,5 = 60$ (3)

3.3 Ontwerp 1: Putjies 1, 2, 5, 7
Ontwerp 2: Putjies 3, 4
Ontwerp 3: Putjies 6, 9
Ontwerp 4: Putjie 8 (4)

3.4 $270 \text{ cm} + 90 \text{ cm} + 270 \text{ cm} + 270 \text{ cm} + 270 \text{ cm} + 90 \text{ cm}$
 $= 1\,260 \text{ cm}$
 $= 1\,260 \div 100$ **OF** $(270 \text{ cm} \times 3) + (90 \text{ cm} \times 5)$
 $= 1\,260 \text{ cm}$
 $= 12,6 \text{ m}$
 $\approx 13 \text{ m}$ $= 12,6 \text{ m}$
 $\approx 13 \text{ m}$ (6)

3.5 3.5.1 $(270 \text{ cm} \times 90 \text{ cm}) + (135 \text{ cm} \times 90 \text{ cm})$
 $= 24\,300 \text{ cm}^2 + 12\,150 \text{ cm}^2$
 $= 36\,450 \text{ cm}^2$
 $36\,450 \text{ cm}^2 + 267\,300 \text{ cm}^2$
 $= 303\,750 \text{ cm}^2 \div 100 \div 100$
 $= 30,375 \text{ m}^2$ (7)

3.5.2 $30,375 \text{ m}^2 \times R115 \text{ m}^2$
 $= R3\,493,13 \times 1,14 = R3\,982,17$ **OF** $R115 \times 114\% = R131,10$
 $R131,10 \times 30,4 \text{ m}^2$
 $R3\,985,44$
OF
 $31 \text{ m}^2 \times R115$
 $= R3\,565,00 \times 1,14 = R4\,064,10$ (4)

3.6 1 : 60
 $4,5 \text{ cm} \times 60 = 270 \text{ cm}$
 $270 \div 100$ **OF** Hy sal die skaal verklein.
 $= 2,7 \text{ cm}$ en nie 4,5 cm As 1 : 50 $\rightarrow 4,5 \text{ cm} \times 50 = 225 \text{ cm}$
As 1 : 70 $\rightarrow 4,5 \text{ cm} \times 70 = 315 \text{ cm}$

Hoe groter die skaal, hoe kleiner die diagram.
 \therefore om die diagramme groter te laat lyk, moet die skaal kleiner wees. (4)

3.7 $\frac{£11,40 - £9,50}{£9,50} \times 100$
 $= \frac{£1,90}{£9,50} \times 100$
 $= 20\%$
VK BTW is hoër. (5)

[35]

VRAAG 4

4.1 $\text{Koste} = \text{R}10\,000 + \text{R}300 \text{ per gas}$ (3)

4.2 Grafiek 1 – Plek 4

Grafiek 2 – Plek 1

Grafiek 3 – Plek 3

Grafiek 4 – Plek 2 (4)

4.3 4.3.1 Views

4.3.2 Ridge on the Hill

4.3.3 145

4.3.4 110 (4)

4.4 4.4.1 Saamgestel – Die rente is nie 'n vaste bedrag nie.
Dit neem toe namate die kapitaal groei. (2)

4.4.2 (a) $\text{R}31\,064,80 + \text{R}217,45$
 $= \text{R}31\,282,25$ (2)

(b) $\text{R}32\,619,32$ (1)

(c) $\text{R}34\,732,83 - \text{R}34\,491,39$
 $= \text{R}241,44$ (2)

4.4.3 $\text{R}35\,715,61 - \text{R}30\,000$
 $= \text{R}5\,715,61$ (3)

4.4.4 $\frac{\text{R}210}{\text{R}30\,000} \times 100$
 $= 0,7\% \times 12$
 $= 8,4\% \text{ p.j.}$ (5)

$$4.4.5 \quad R30\,000 \times 1,084$$

$$= R32\,520$$

$$R32\,520 \times 1,084$$

$$= R35\,251,68$$

$$R35\,251,68 \times 1,084$$

$$= R38\,212,82$$

$$R38\,212,82 \times 1,084$$

$$= R41\,422,70$$

$$R41\,422,70 \times 1,084$$

$$= R44\,902,20$$

$$R44\,902,20 \times 1,084$$

$$= R48\,673,99$$

\therefore Dit sal net meer as 5 jaar neem.

(4)
[30]

VRAAG 5

$$\begin{aligned} 5.1 \quad \text{Gemiddelde} &= \text{R}598\,055 + \text{R}587\,230 + \left(\frac{\text{R}643\,440 + \text{R}672\,000}{2} \right) + \\ &\quad \frac{\text{R}695\,800 + \text{R}1\,200\,000}{5} \\ &= \frac{\text{R}3\,738\,805}{5} \\ &= \text{R}747\,761 \div 12 \\ &= \text{R}62\,313,42 \\ &= \text{R}62\,300 \end{aligned} \quad (8)$$

$$\begin{aligned} 5.2 \quad \text{R}598\,055 \div \$51\,186 \\ = \text{R}11,68 \end{aligned} \quad (3)$$

$$\begin{aligned} 5.3 \quad (\text{R}1\,200\,000 - \text{R}587\,230) \div 12 \\ = \text{R}612\,770 \div 12 \\ = \text{R}51\,064,17 \end{aligned} \quad (5)$$

$$5.1.4 \quad \text{Sien Antwoordblad – Nasienriglyne.} \quad (10)$$

[26]

Totaal: 150 punte