

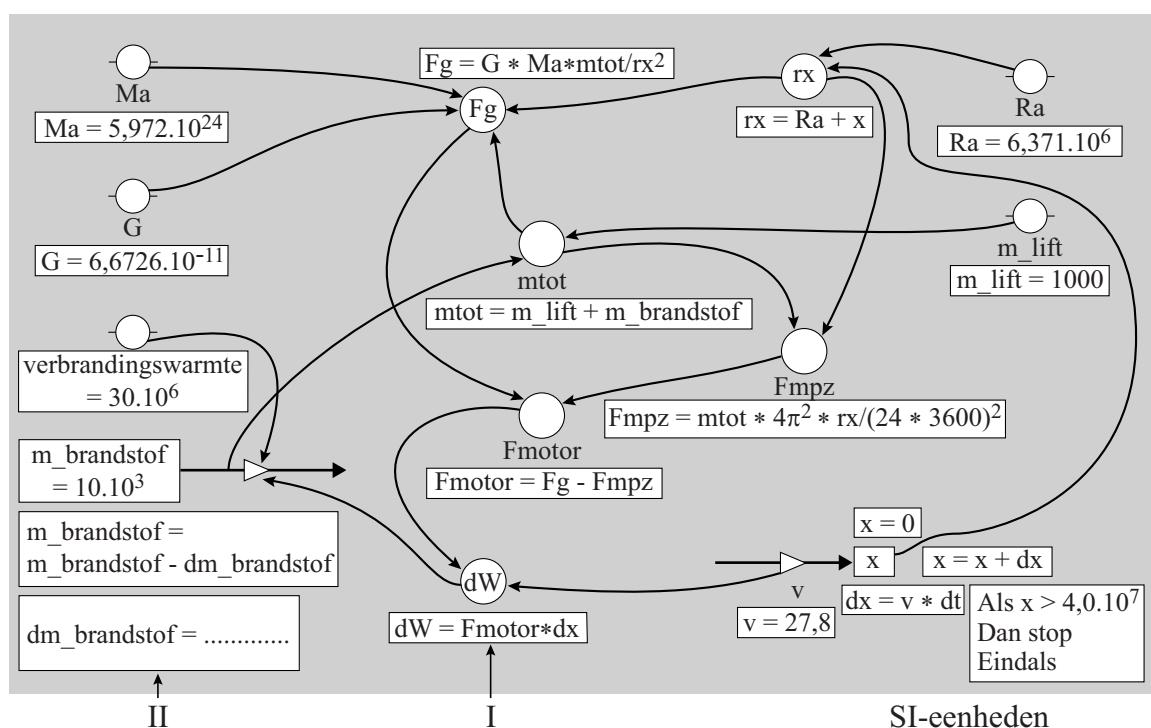
uitwerkbijlage

Naam kandidaat

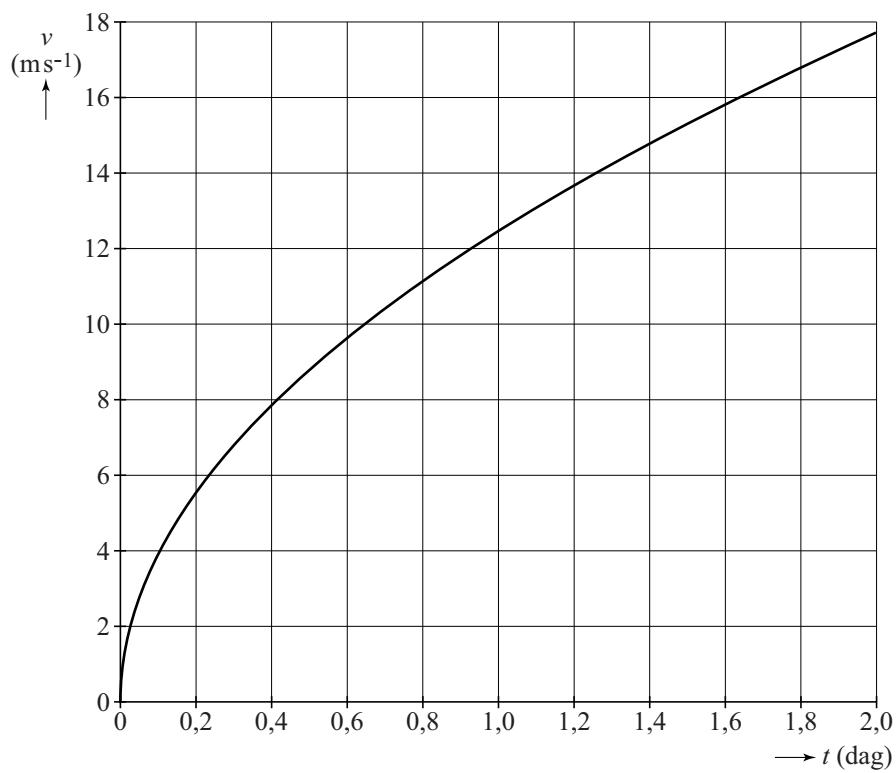
Kandidaatnummer

7

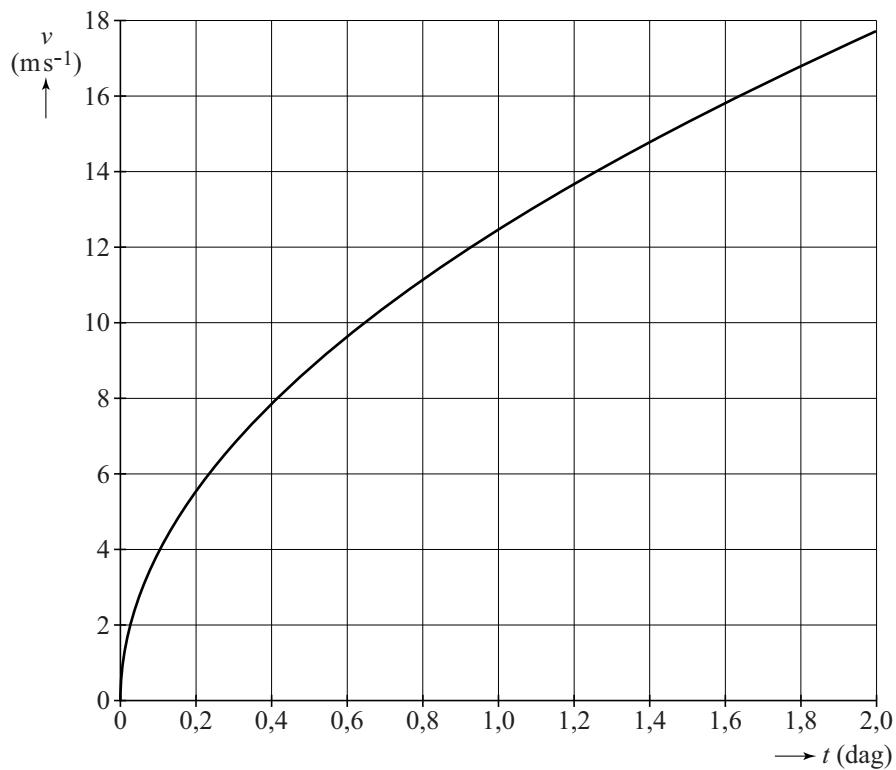
MODELREGELS		STARTWAARDEN in SI-eenheden
1	$rx = Ra + x$	$t = 0$
2	$mtot = m_lift + m_brandstof$	$dt = 10$
3	$Fg = G * Ma * mtot / rx^2$	$Ra = 6,371E6$
4	$Fmpz = mtot * 4\pi^2 * rx / (24*3600)^2$	$Ma = 5,972E24$
5	$Fmotor = Fg - Fmpz$	$G = 6,6726E-11$
6	$dx = v * dt$	$m_lift = 1000$
7	$x = x + dx$	$m_brandstof = 10000$
8	$dW = Fmotor * dx$	$verbrandingswarmte = 30E6$
9	$dm_brandstof =$	$x = 0$
10	$m_brandstof = m_brandstof - dm_brandstof$	$v = 27,8$
11	als $x > 4,0E7$ Dan stop Eindals	
12	$t = t + dt$	

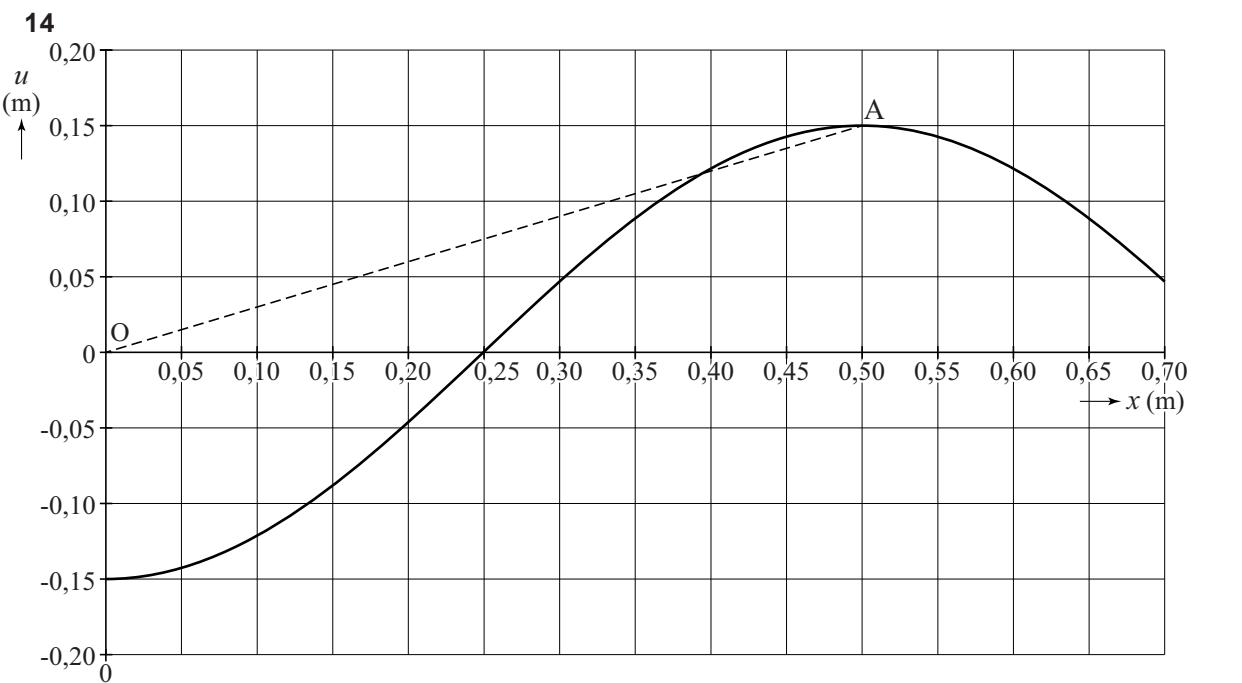


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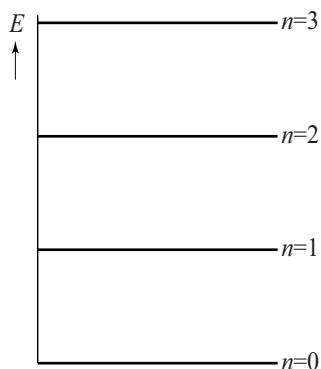




15 Vul onderstaande zin aan.

Als de lengte van de vogel 4 maal zo groot wordt, wordt de slagfrequentie $f!$ maal zo

18



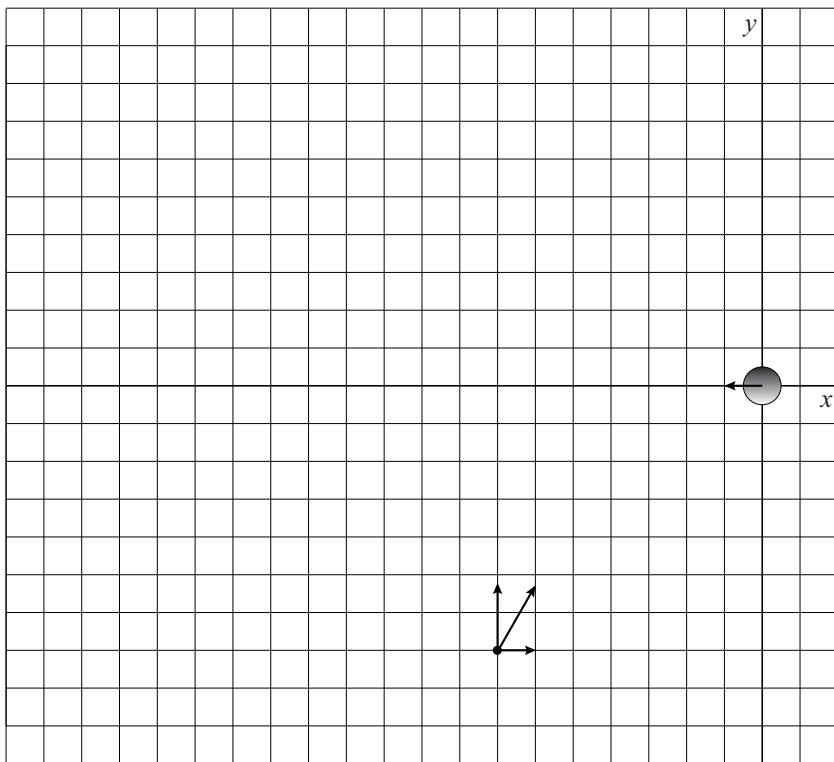
VERGEET NIET DEZE UITWERKBIJLAGE IN TE LEVEREN

uitwerkbijlage

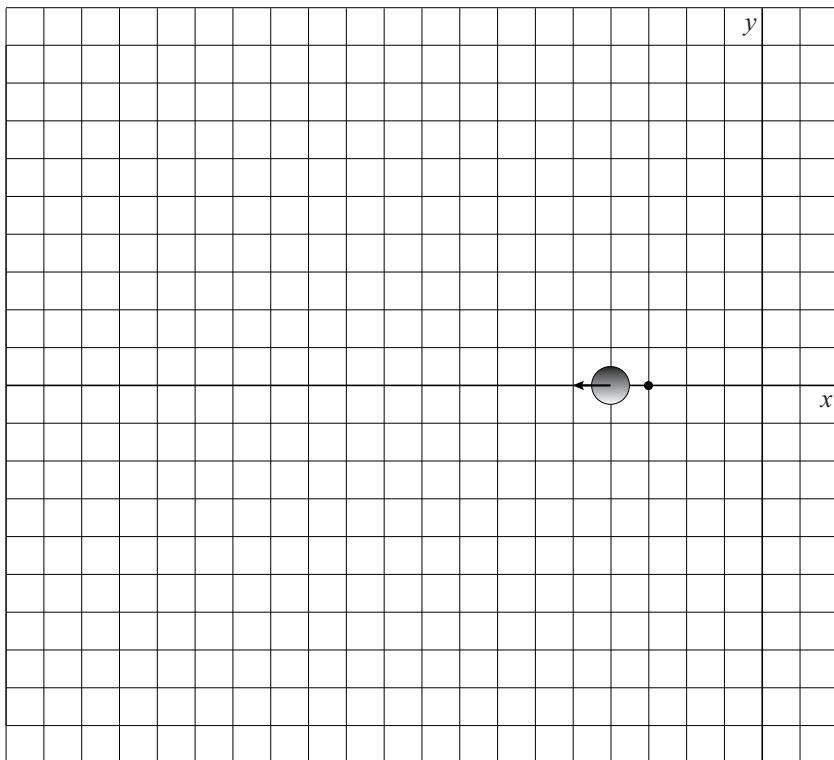
Naam kandidaat _____

Kandidaatnummer _____

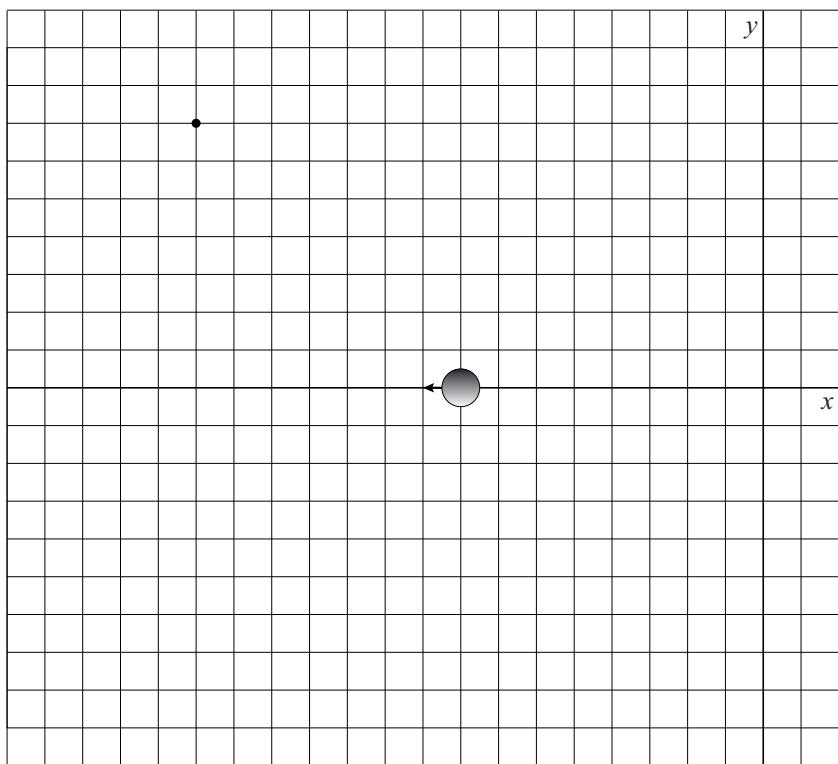
16 figuur 3a



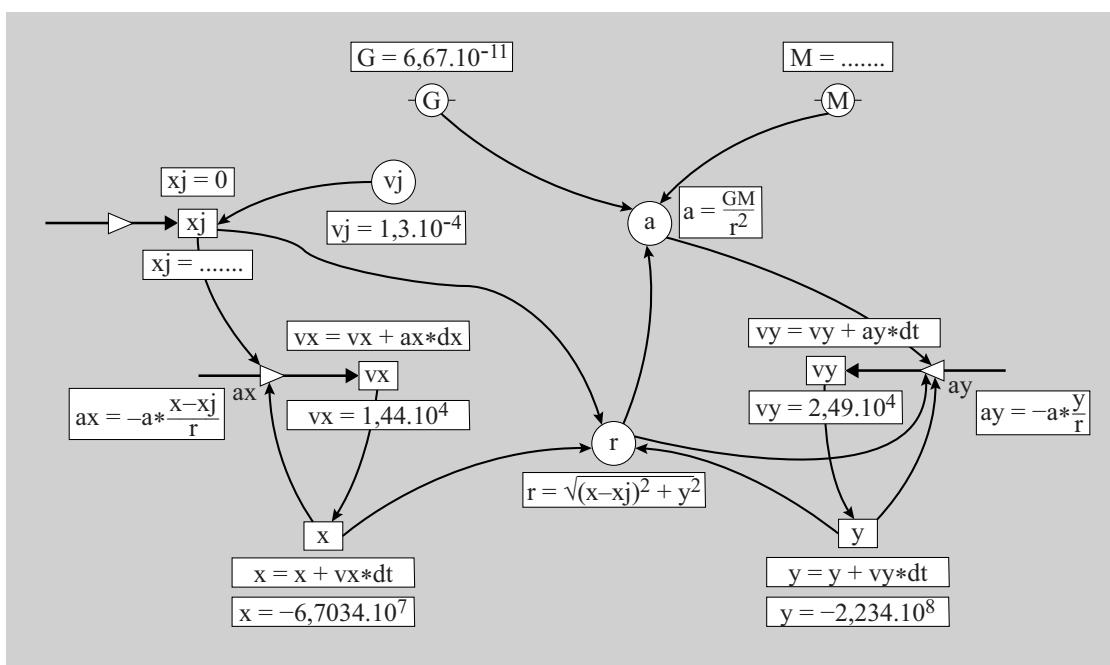
figuur 3b



figuur 3c



	Modelregels	Startwaarden (SI)
1	$r = ((x - x_j)^2 + y^2)^{0,5}$	$G = 6,67 \cdot 10^{-11}$
2	$a = GM/r^2$	$M = \dots$
3	$ax = -a \cdot (x - x_j)/r$	$vx = 1,44 \cdot 10^4$
4	$ay = -a \cdot y/r$	$vy = 2,49 \cdot 10^4$
5	$vx = vx + ax \cdot dt$	$x = -6,7034 \cdot 10^7$
6	$vy = vy + ay \cdot dt$	$y = -2,234 \cdot 10^8$
7	$x = x + vx \cdot dt$	$x_j = 0$
8	$y = y + vy \cdot dt$	$v_j = -1,3 \cdot 10^4$
9	$x_j = \dots$	$t = 0$
10	$t = t + dt$	$dt = 5$

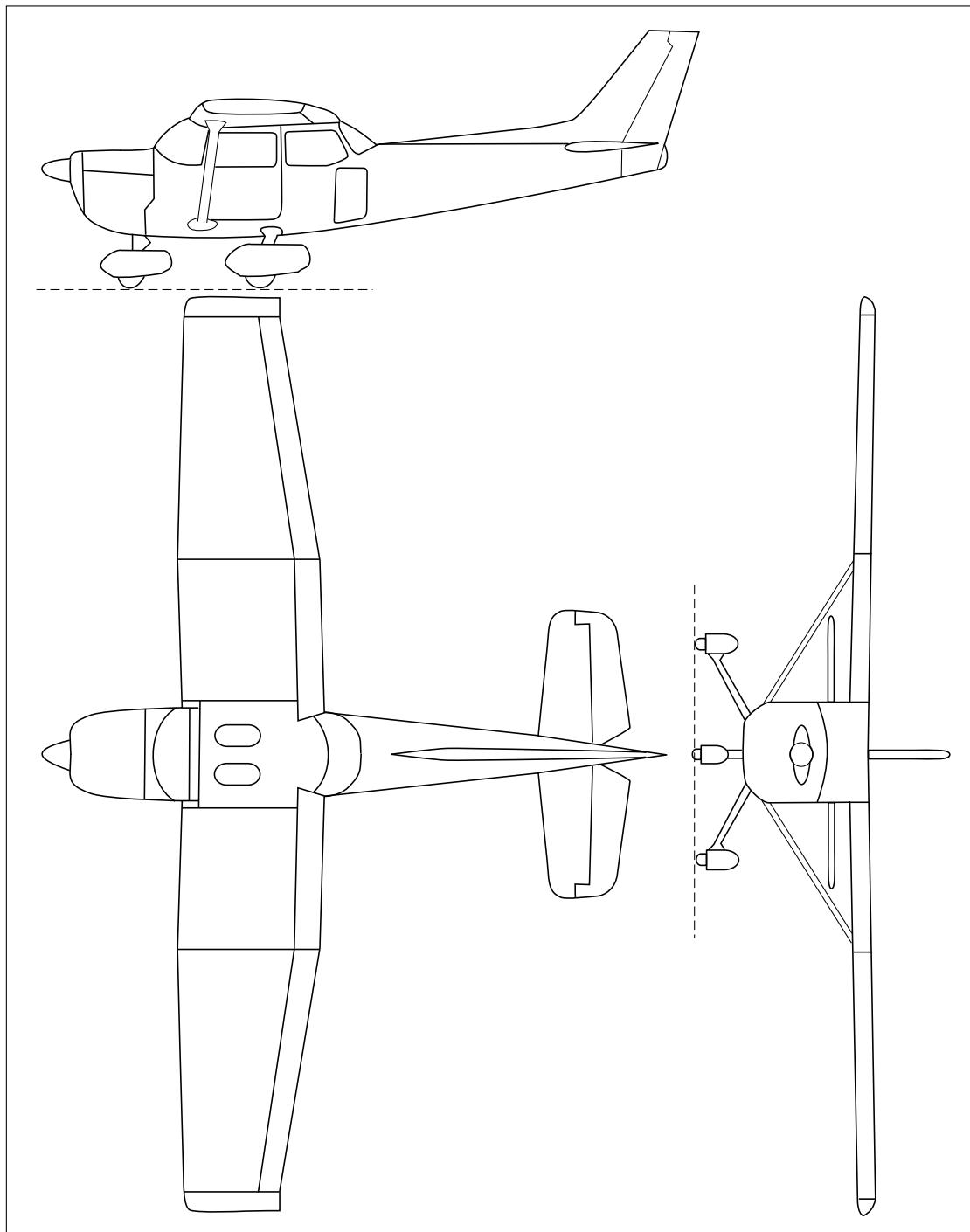


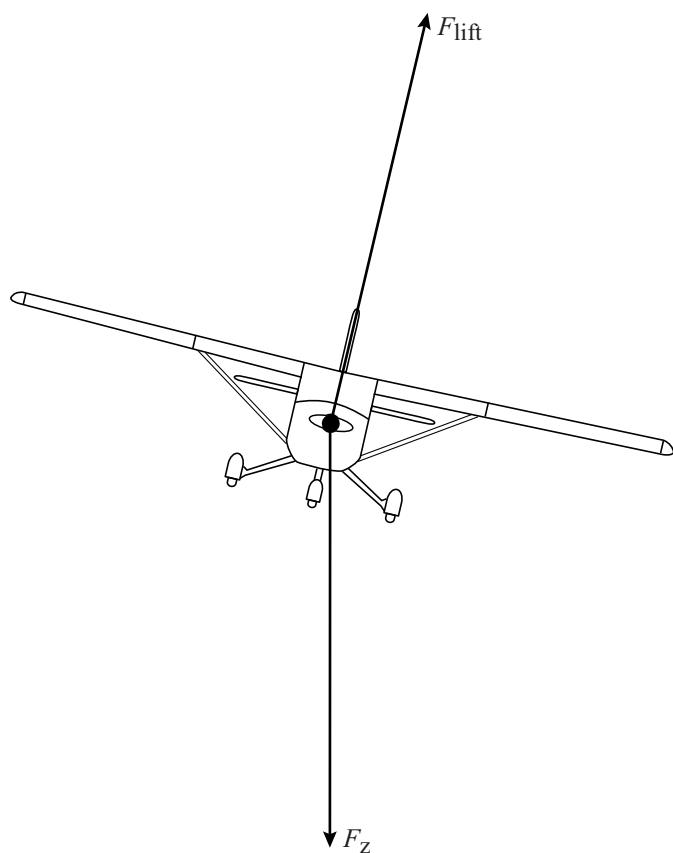
VERGEET NIET DEZE UITWERKBIJLAGE IN TE LEVEREN

uitwerkbijlage

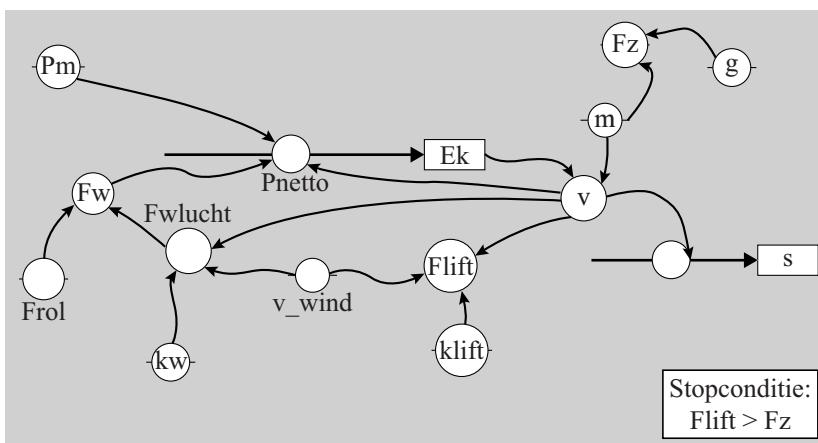
Naam kandidaat _____ Kandidaatnummer _____

6

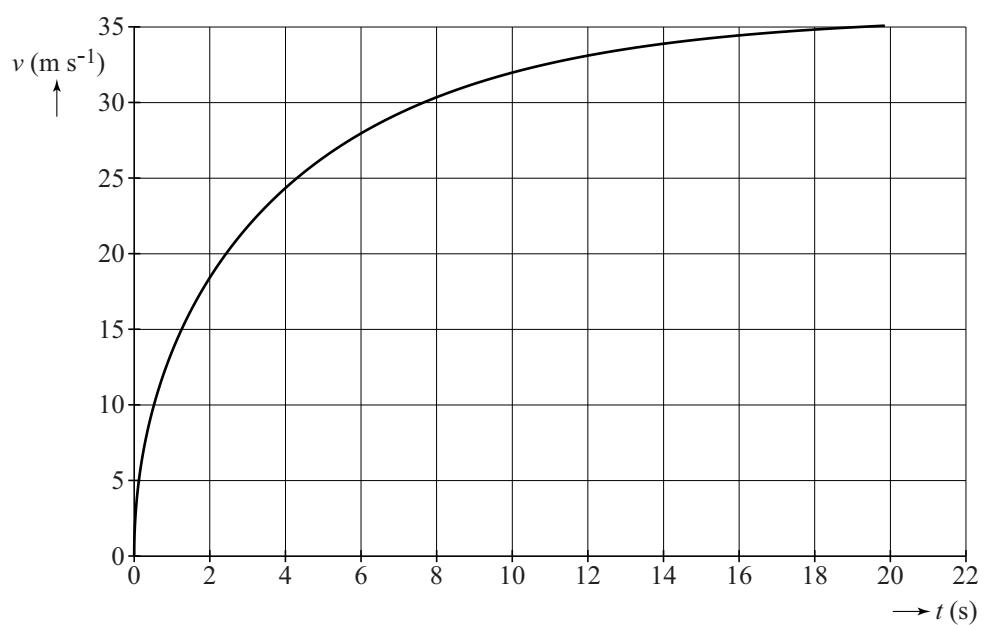




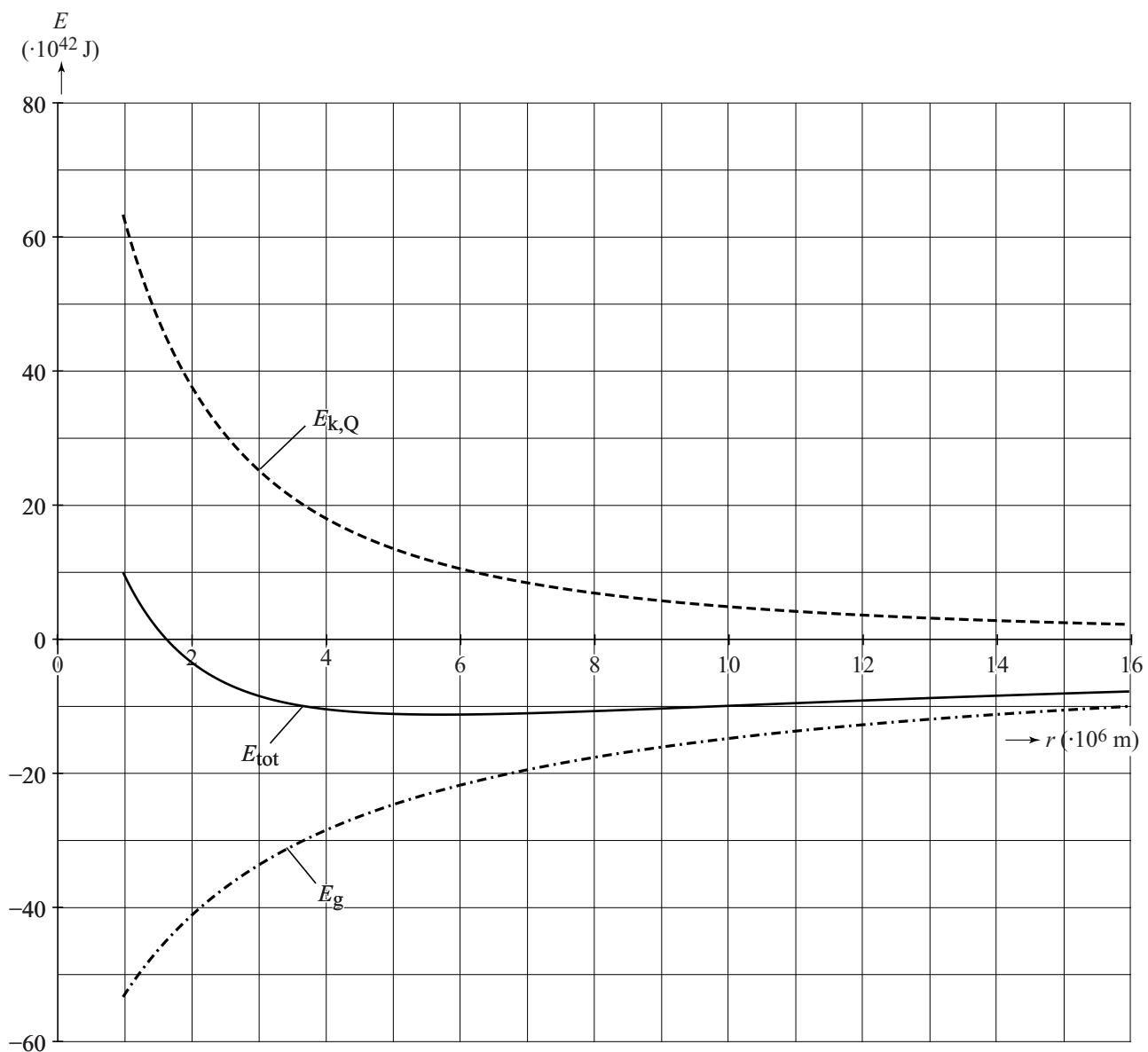
MODEL	STARTWAARDEN in SI-eenheden
$F_z = m \cdot g$	$F_{rol} = 910$
$F_{lift} = k_{lift} \cdot (v - v_{wind})^2$	$k_{lift} = 5,68$
$F_{w,lucht} = k_w \cdot (v - v_{wind})^2$	$k_w = 0,913$
$F_w = F_{w,lucht} + F_{rol}$	$v_{wind} = +5$
Als $F_{lift} > F_z$ dan stop Eindals	$m = 710$
$P_{netto} = P_m - F_w \cdot v$	$g = 9,81$
$E_k = \dots$	$P_m = 74000$
$v = \sqrt{2 \cdot E_k / m}$	$E_k = 0$
$ds = v \cdot dt$	$v = 0$
$s = s + ds$	$s = 0$
$t = t + dt$	$t = 0$
	$dt = 0,001$



10



15



25 Geef met kruisjes voor elke leerling aan of die gelijk of ongelijk heeft.

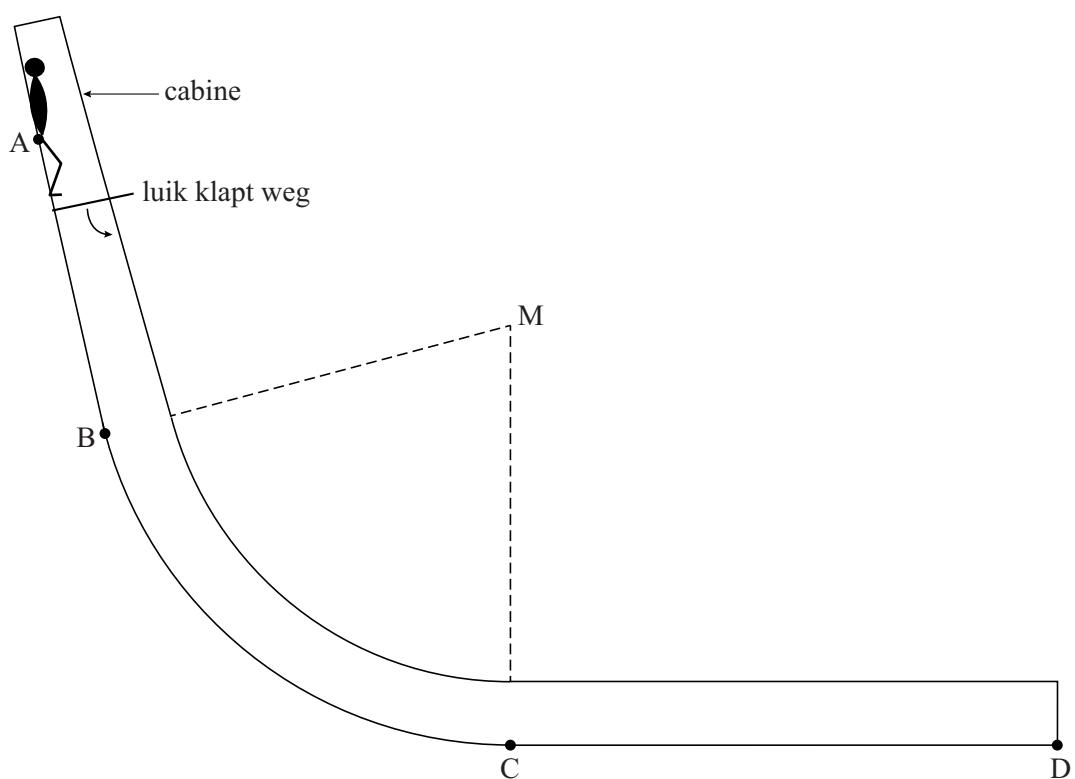
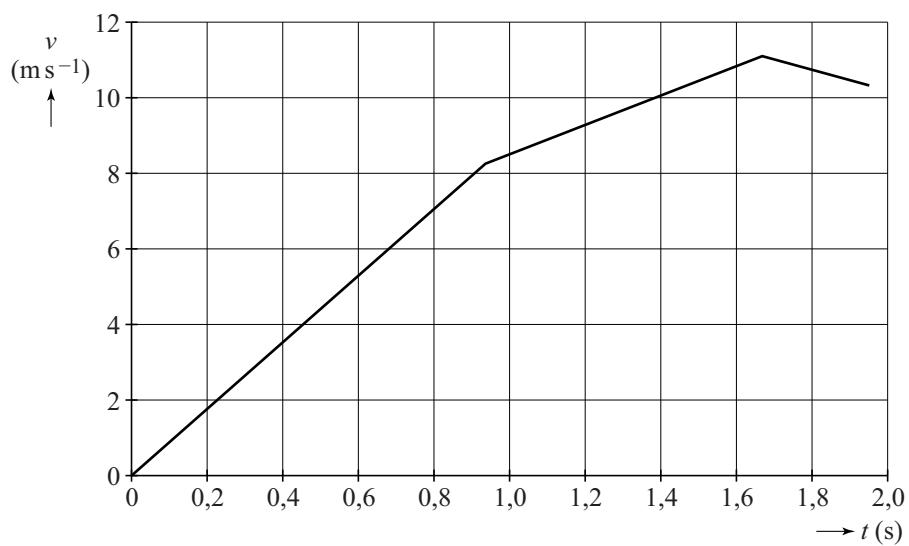
naam	uitspraak	gelijk	ongelijk
Erik	zegt dat de stralingsintensiteit van binnen naar buiten afneemt zowel vanwege de kwadratenwet als door absorptie in het weefsel.		
Myrthe	stelt dat de niet-geabsorbeerde fotonen geen schade aan de tumor toebrengen.		
Frank	zegt dat de tumor nog steeds radioactief is ten gevolge van I-125, ook als dat helemaal vervallen is.		

VERGEET NIET DEZE UITWERKBIJLAGE IN TE LEVEREN

uitwerkbijlage

Naam kandidaat _____

Kandidaatnummer _____

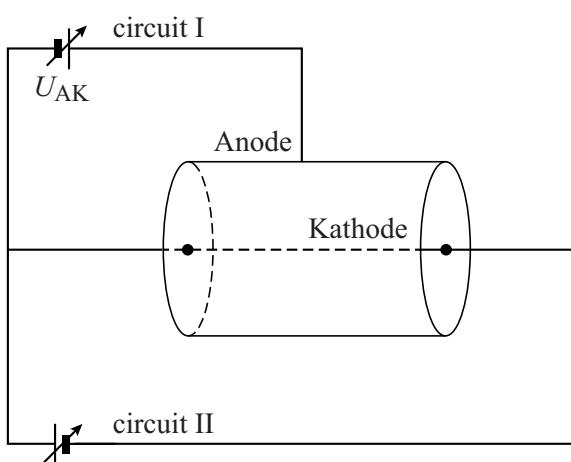
6**9**

16

tabel

Energie	eV
E_k	
$E_{p,\text{kern}}$	
$E_{p,e-e}$	
E_{tot}	

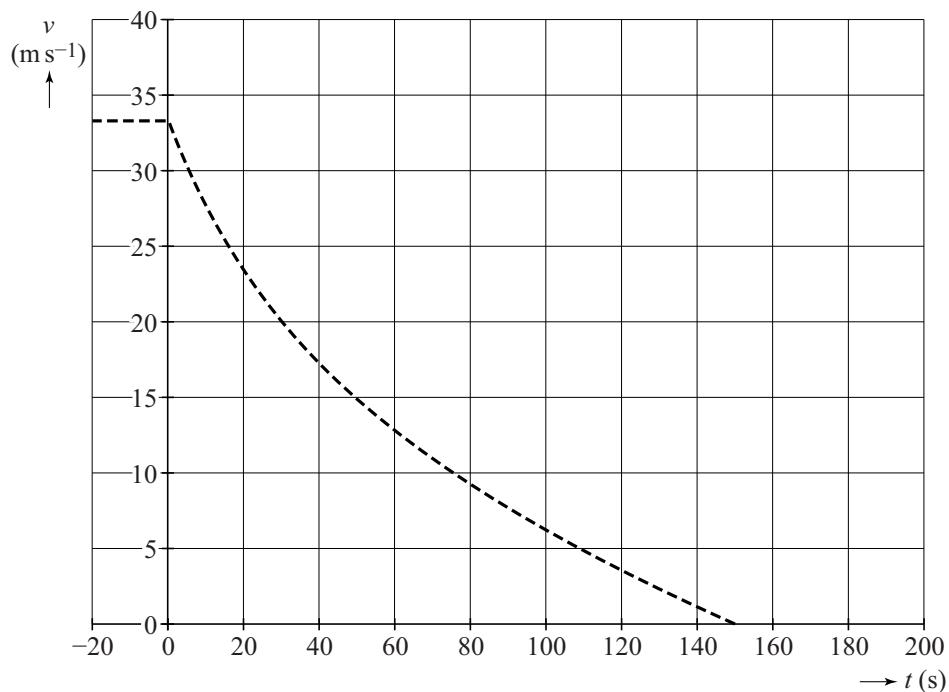
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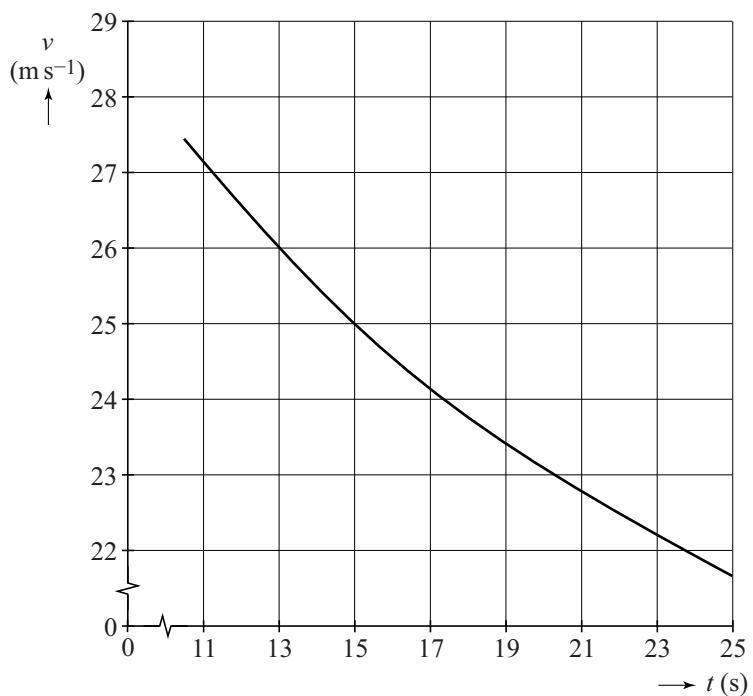
VERGEET NIET DEZE UITWERKBIJLAGE IN TE LEVEREN

uitwerkbijlage

Naam kandidaat _____ Kandidaatnummer _____

1

5

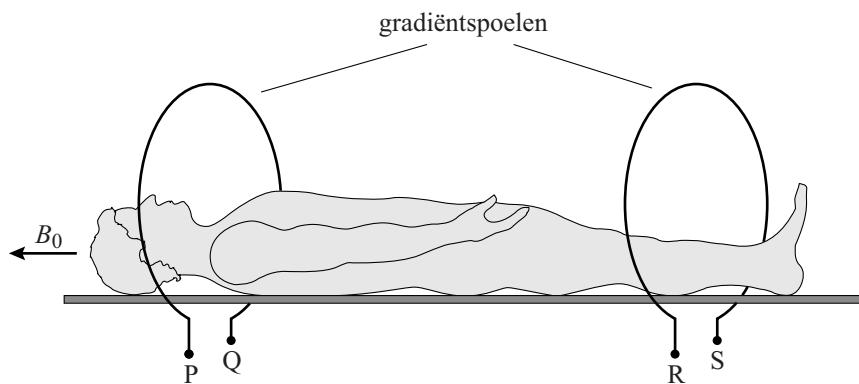


- 7 Geef van elk deel van het spectrum aan, of daarmee de chemische samenstelling of de temperatuur te bepalen is of geen van beide. Zet hiervoor in elk van de twee regels één kruisje.

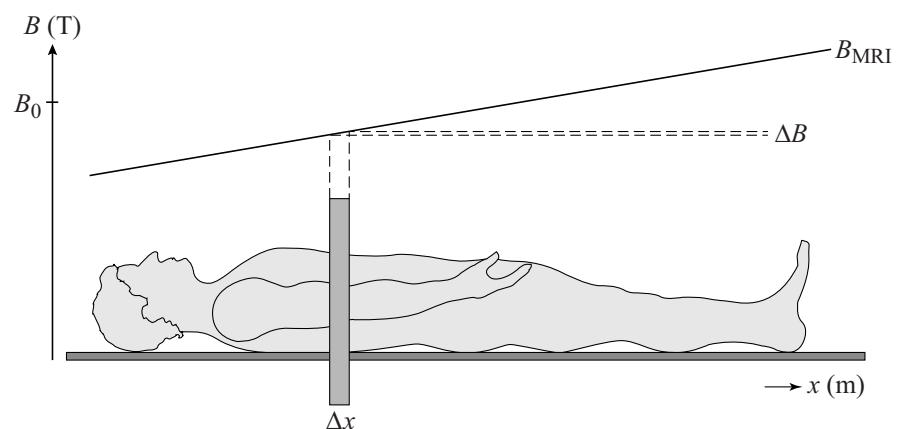
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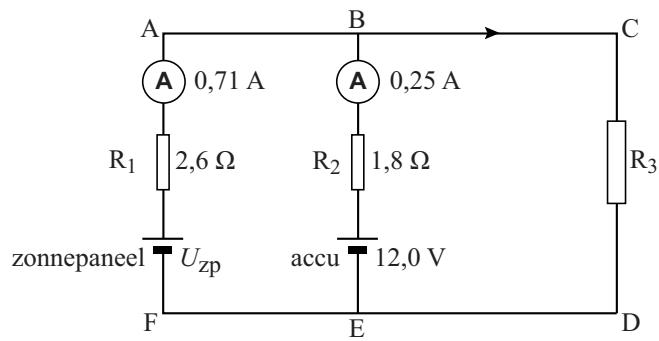
deel van het spectrum	chemische samenstelling van de komeet	temperatuur van de komeet	geen van beide
lijnen			
continu			

19



20

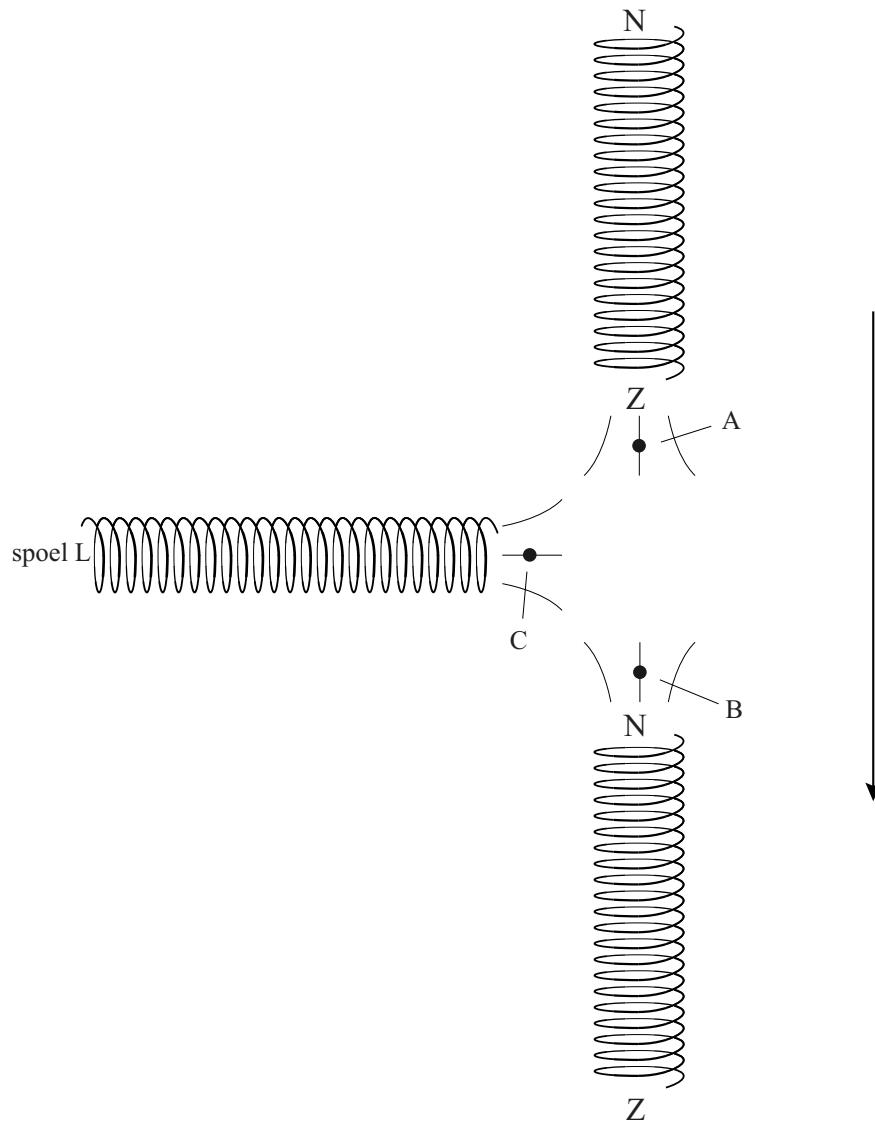


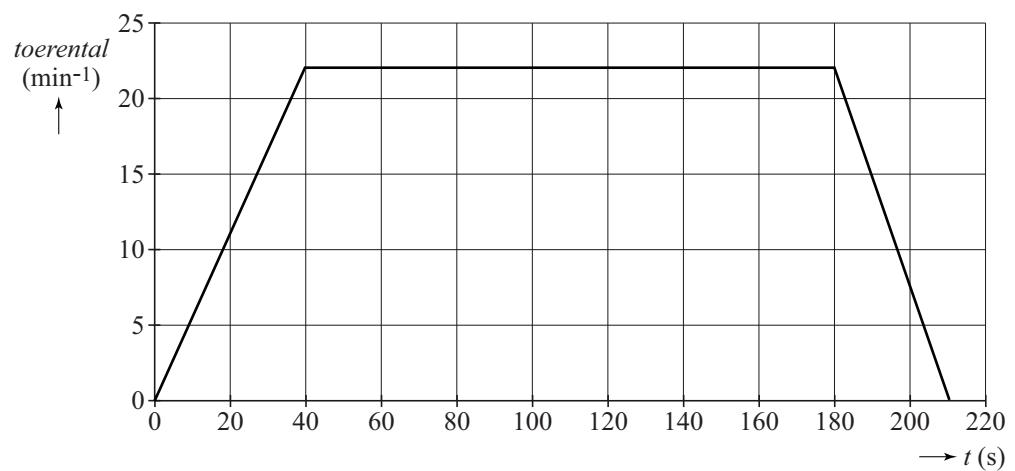


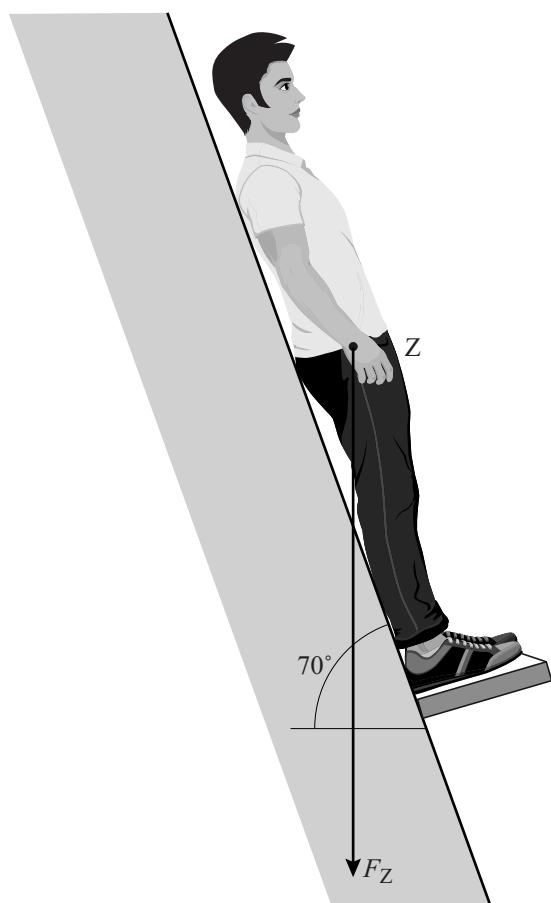
VERGEET NIET DEZE UITWERKBIJLAGE IN TE LEVEREN

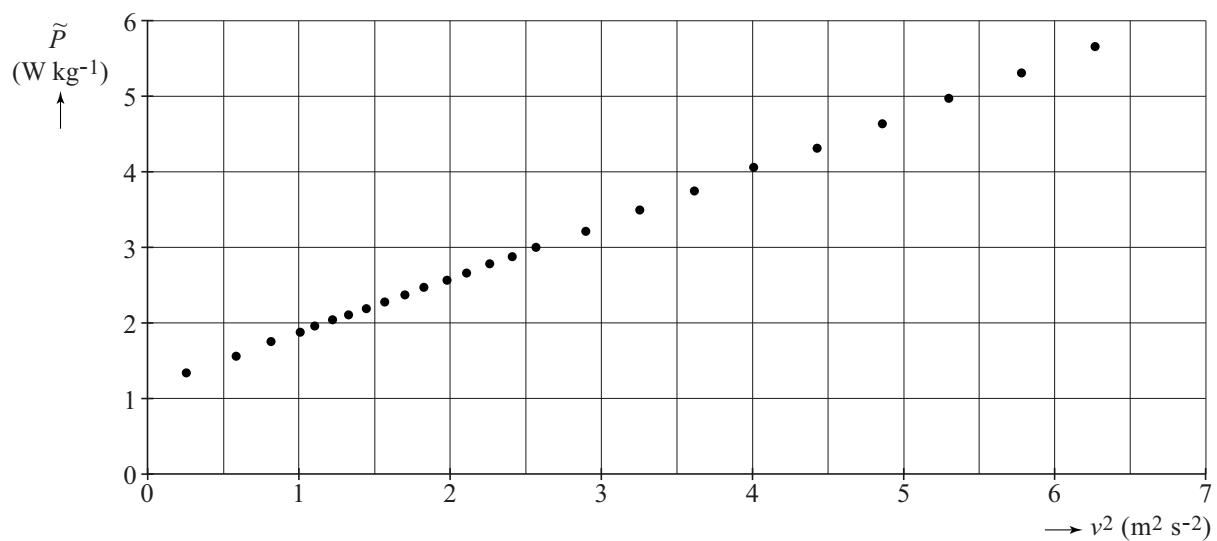
uitwerkbijlage

Naam kandidaat _____ Kandidaatnummer _____

5





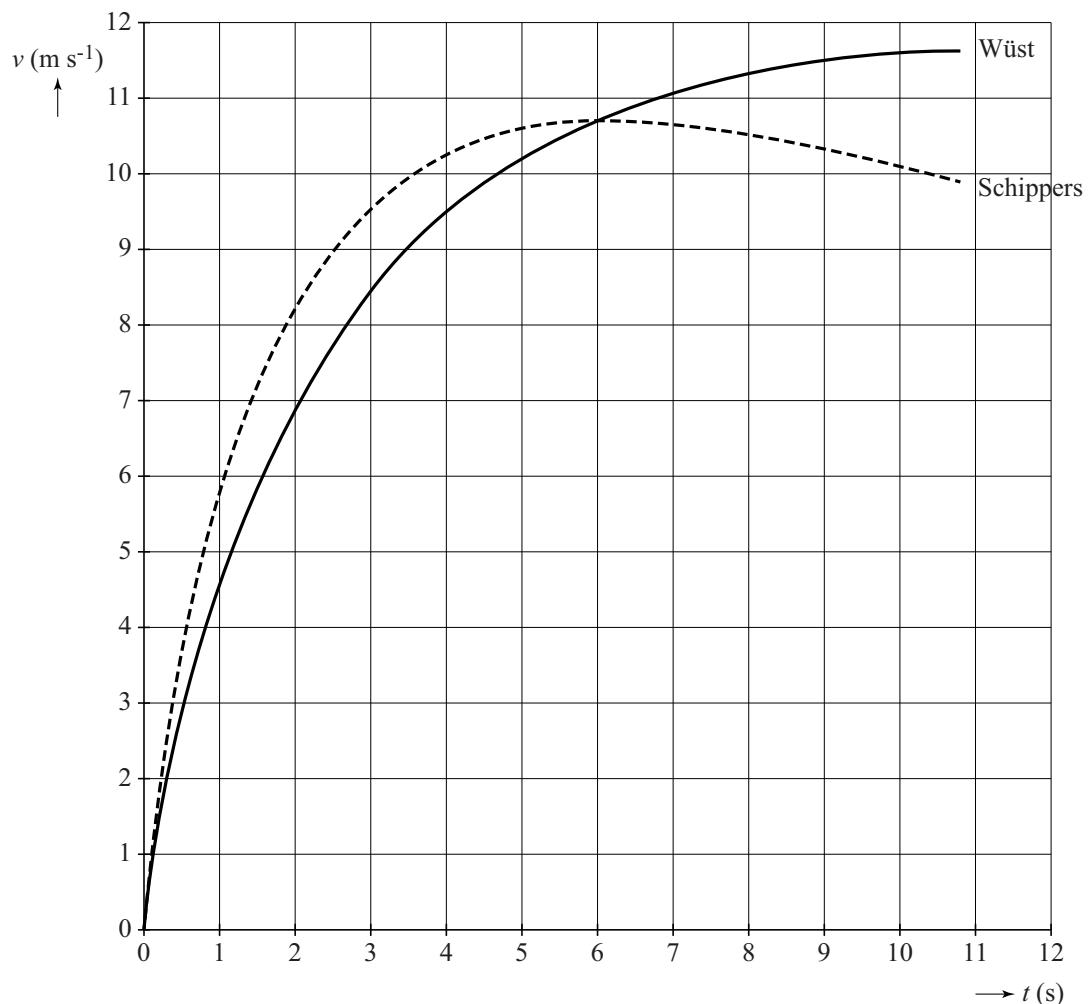


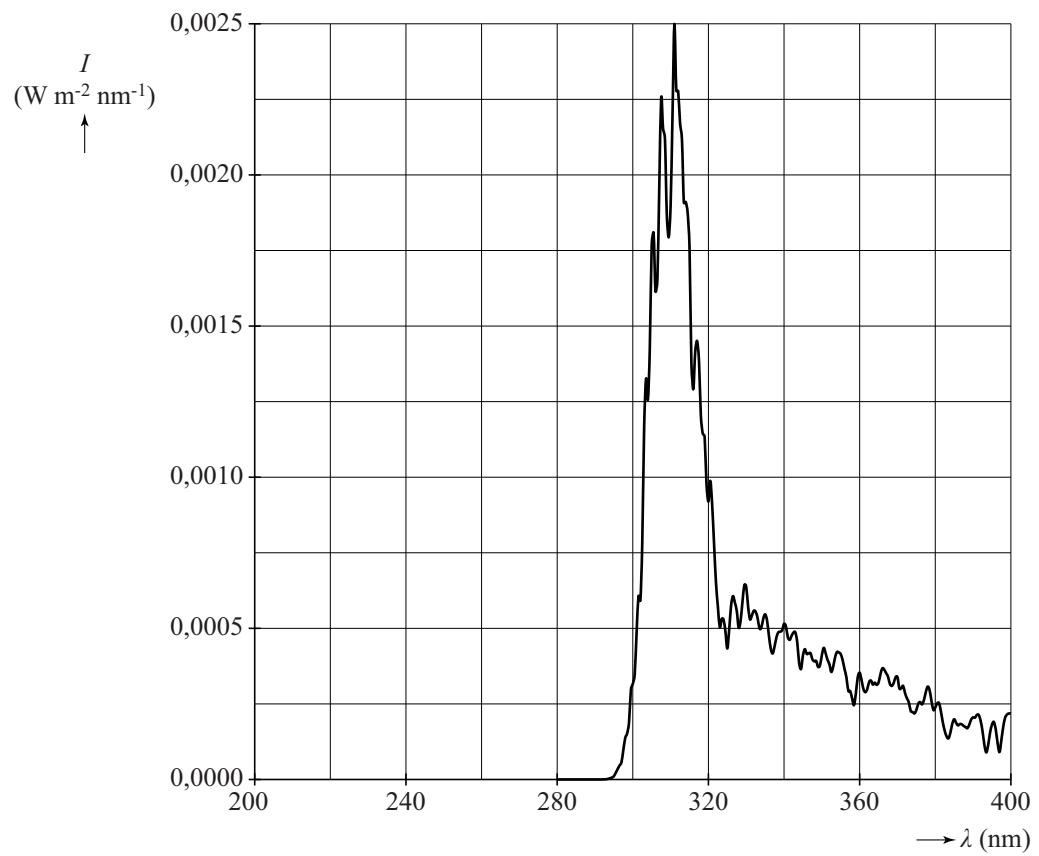
VERGEET NIET DEZE UITWERKBIJLAGE IN TE LEVEREN

uitwerkbijlage

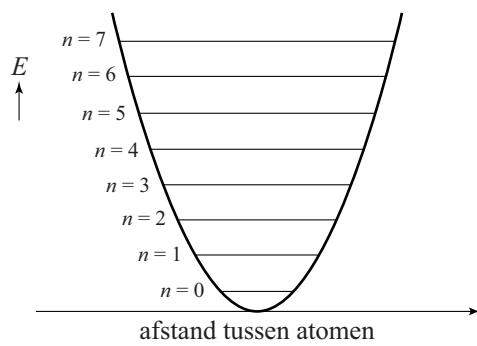
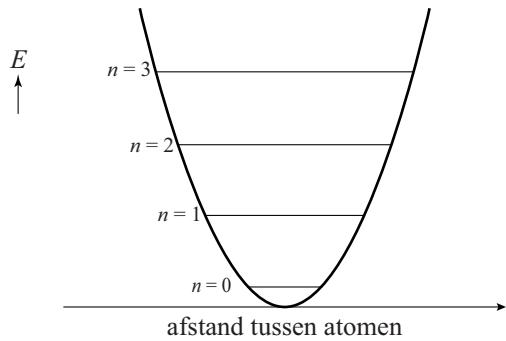
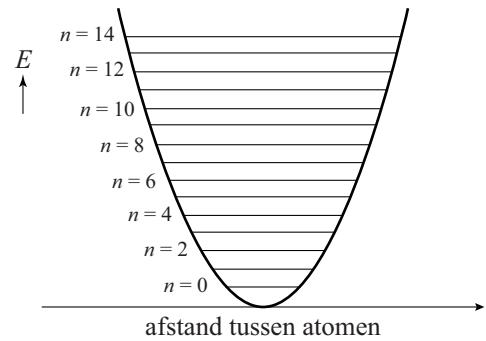
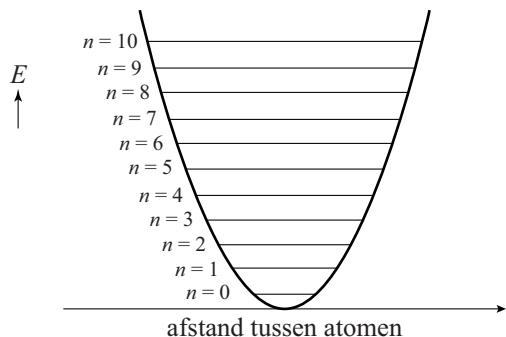
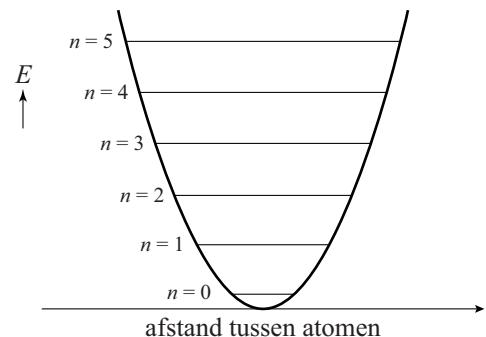
Naam kandidaat _____

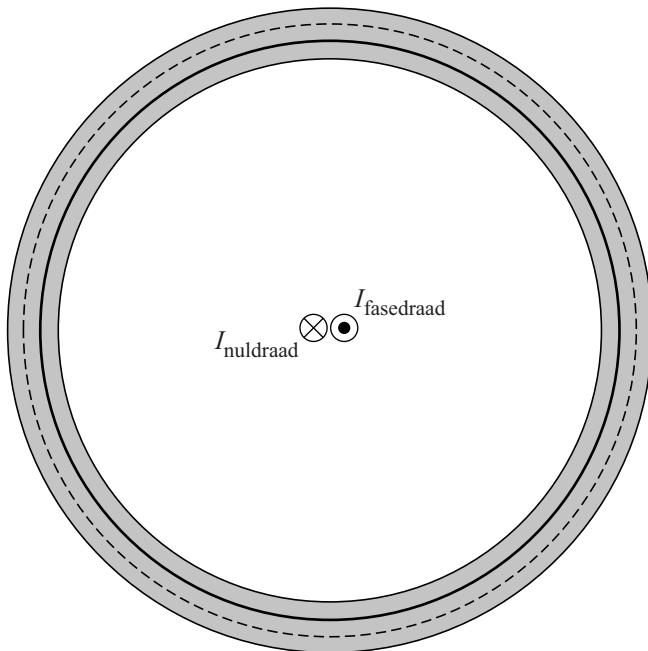
Kandidaatnummer _____

2



23

**C-¹H-binding****I****C-²H-binding****II****C-¹²H-binding****III****C-²¹H-binding****IV****C-²²H-binding**



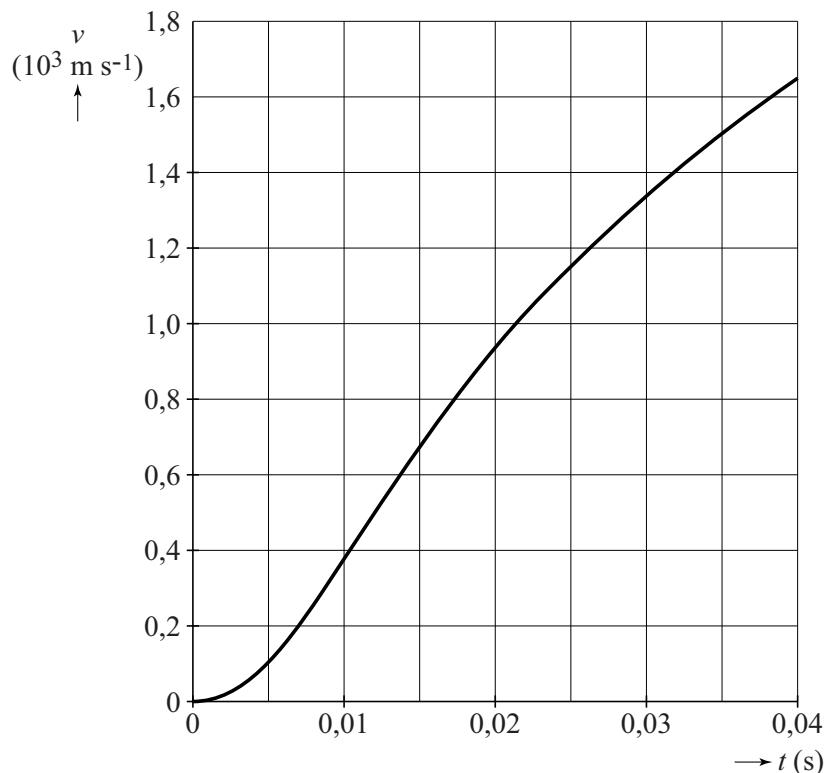
----- Magnetische veldlijn fasedraad

————— Magnetische veldlijn nuldraad

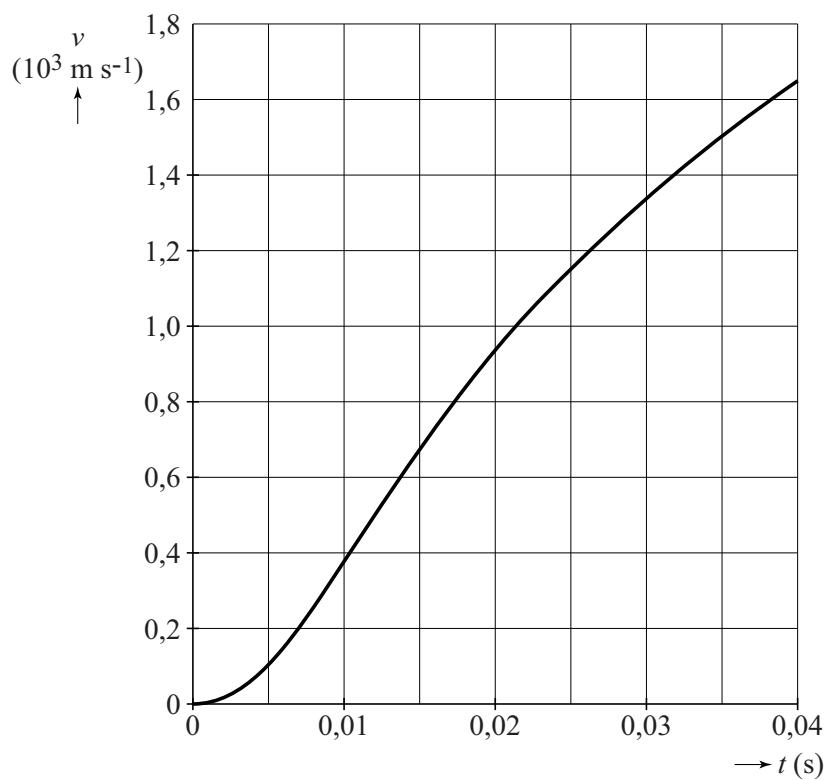
VERGEET NIET DEZE UITWERKBIJLAGE IN TE LEVEREN

uitwerkbijlage

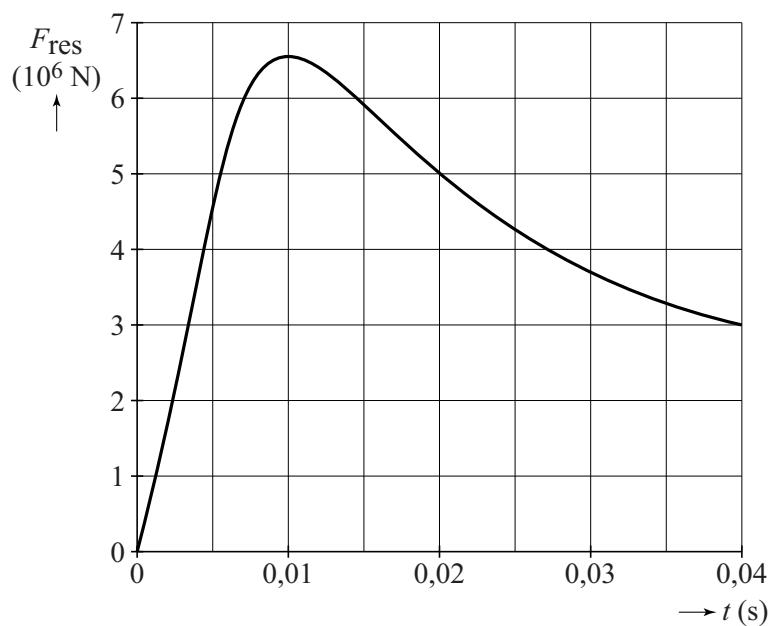
Naam kandidaat _____ Kandidaatnummer _____

1 figuur 2a

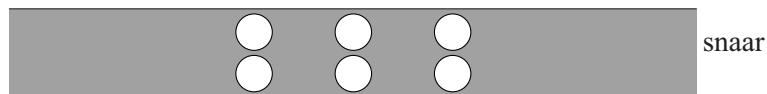
2 figuur 2a



figuur 2b

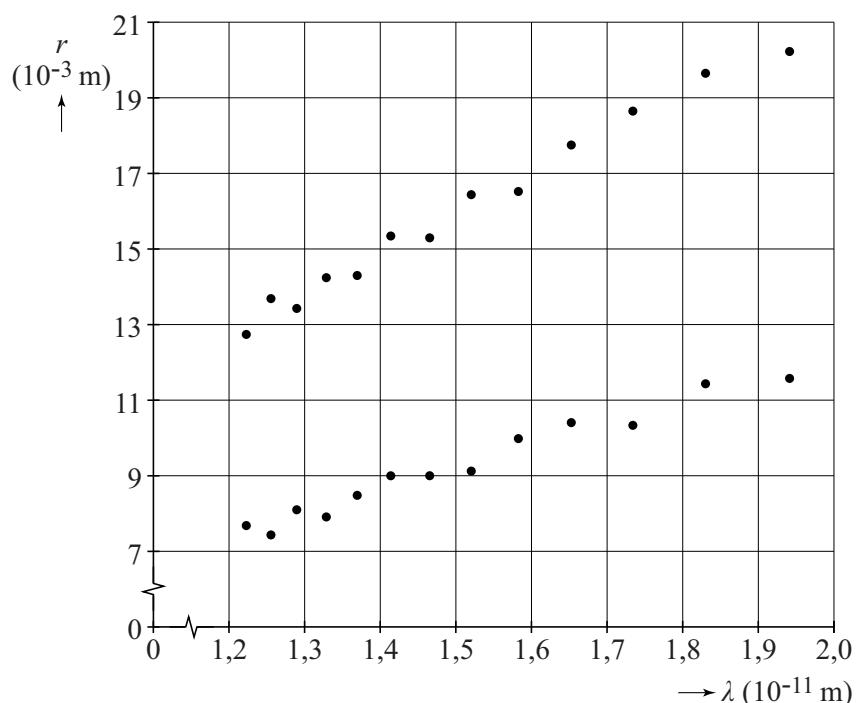
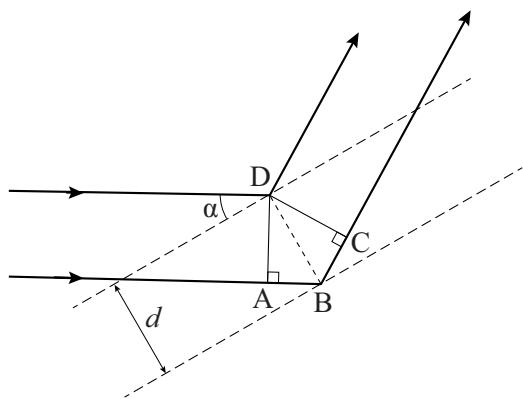


- 8 Geef in elk cirkeltje aan met een letter N of Z of er daar sprake is van een noordpool of een zuidpool.



14

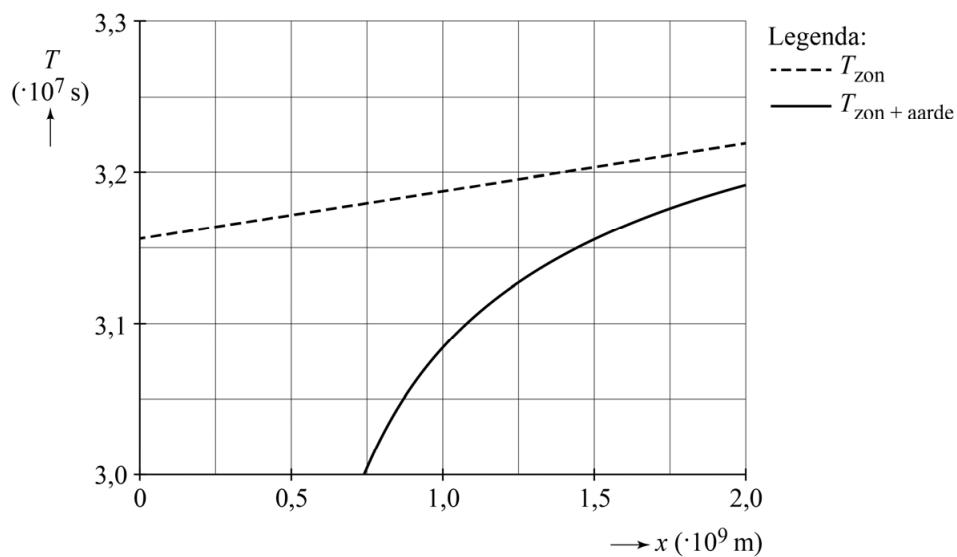




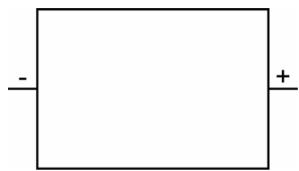
VERGEET NIET DEZE UITWERKBIJLAGE IN TE LEVEREN

uitwerkbijlage

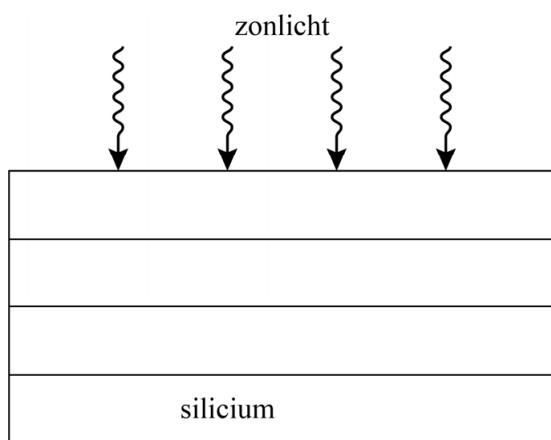
Naam kandidaat _____ Kandidaatnummer _____

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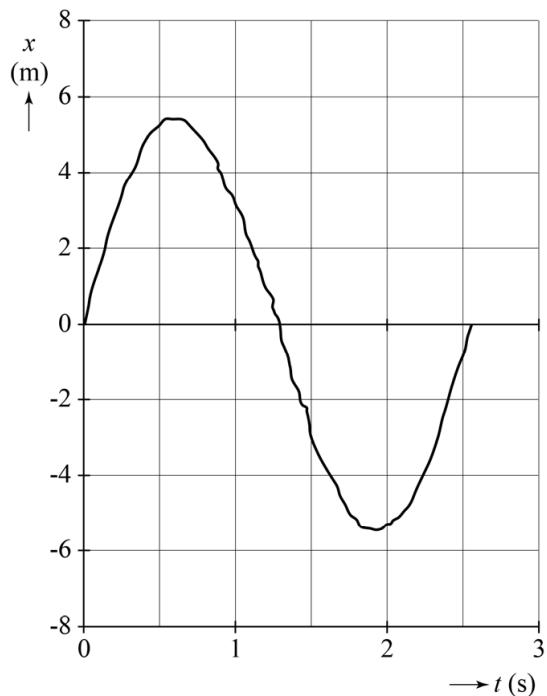
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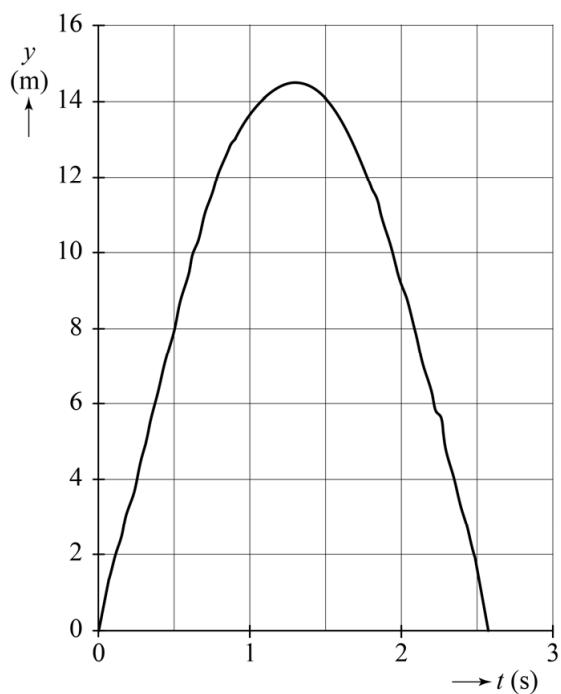
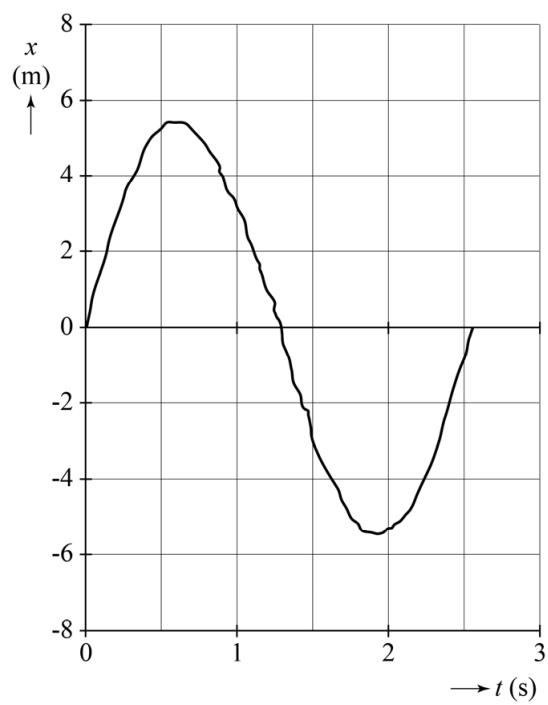
VERGEET NIET DEZE UITWERKBIJLAGE IN TE LEVEREN

uitwerkbijlage

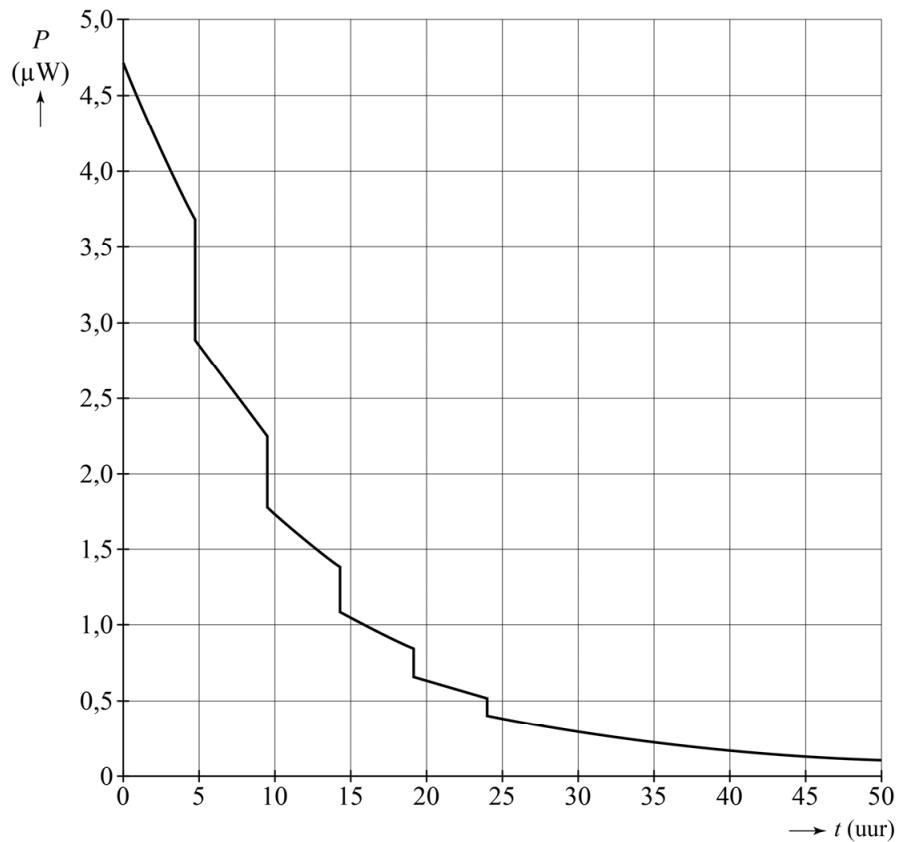
Naam kandidaat _____ Kandidaatnummer _____

3

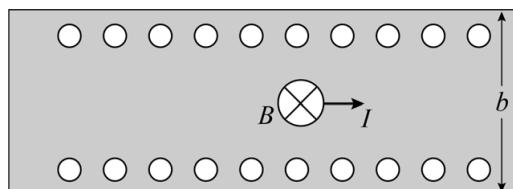
4



15, 16



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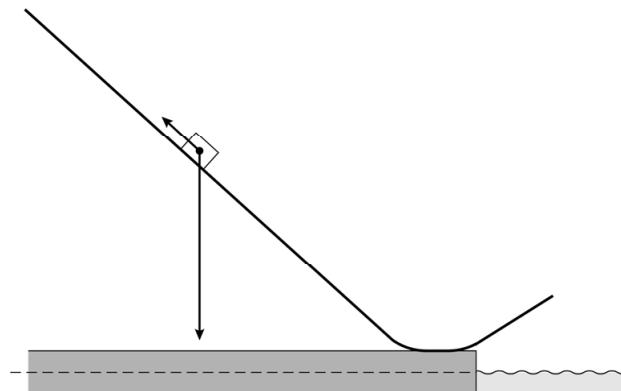
VERGEET NIET DEZE UITWERKBIJLAGE IN TE LEVEREN

uitwerkbijlage

Naam kandidaat _____

Kandidaatnummer _____

3



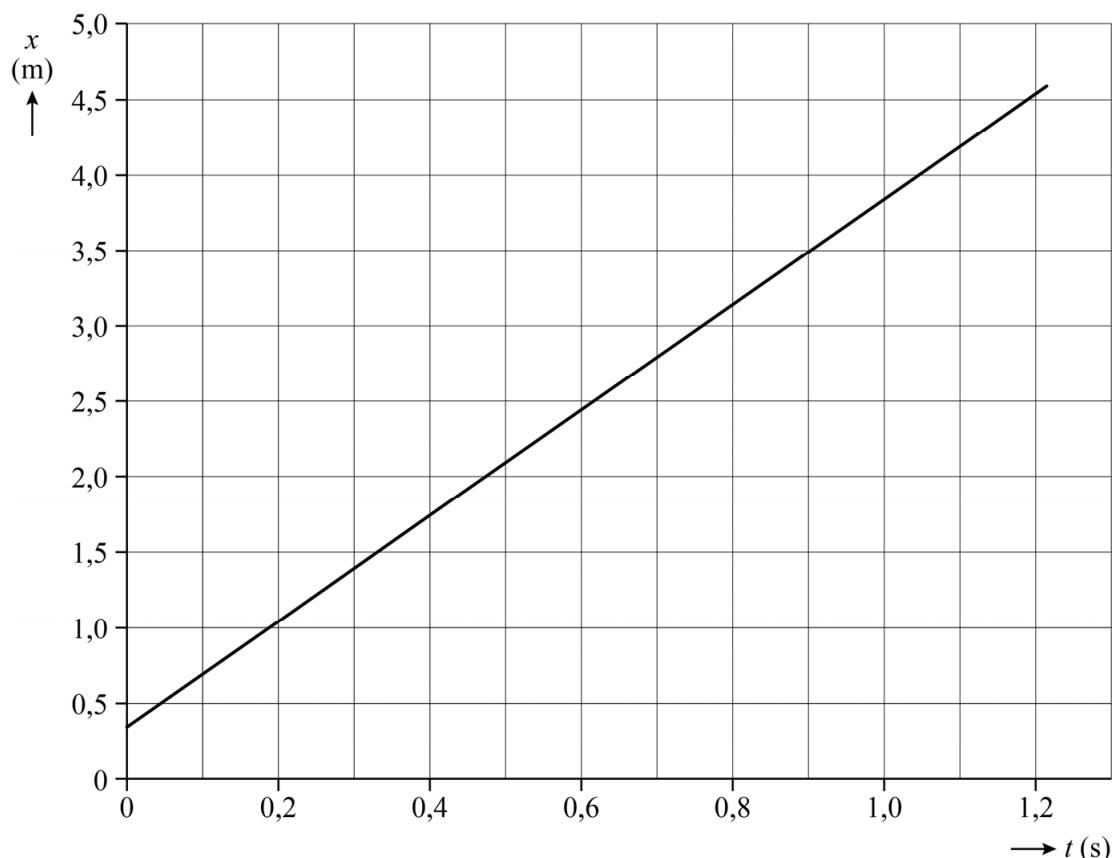
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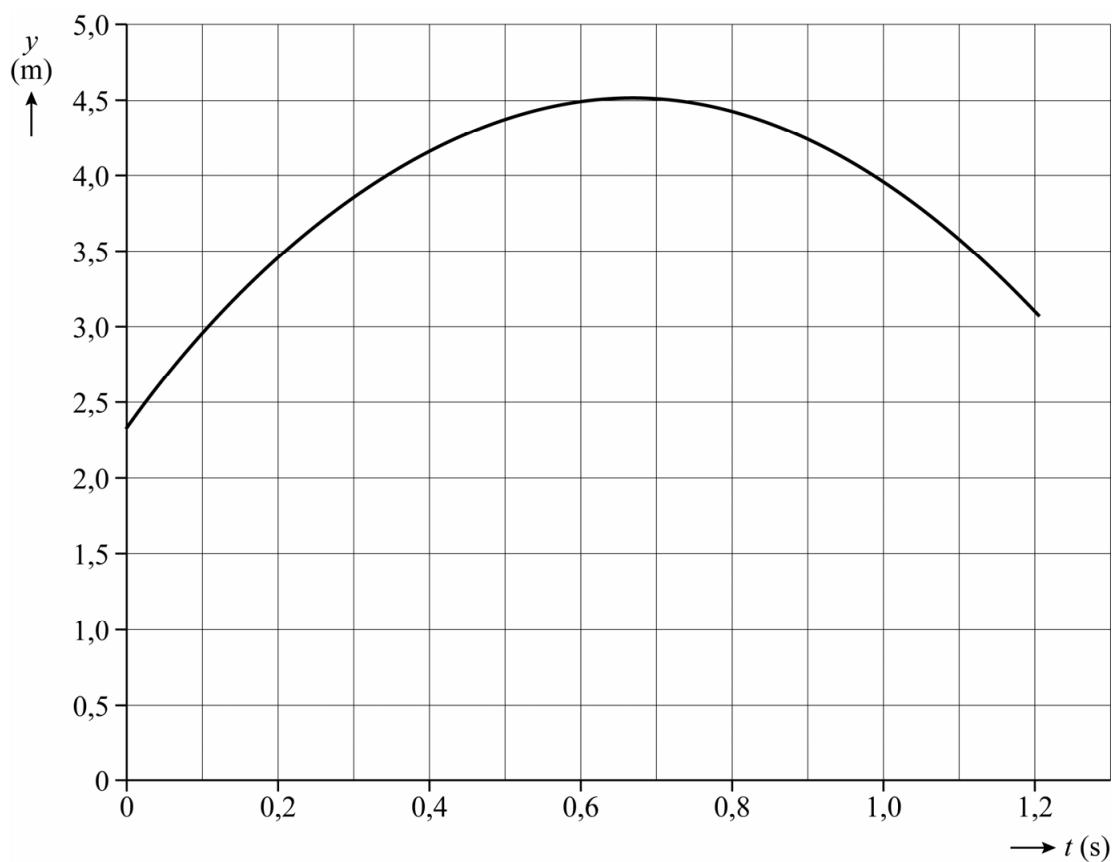
**VERGEET NIET DEZE UITWERKBIJLAGE IN TE LEVEREN**

uitwerkbijlage

Naam kandidaat _____

Kandidaatnummer _____

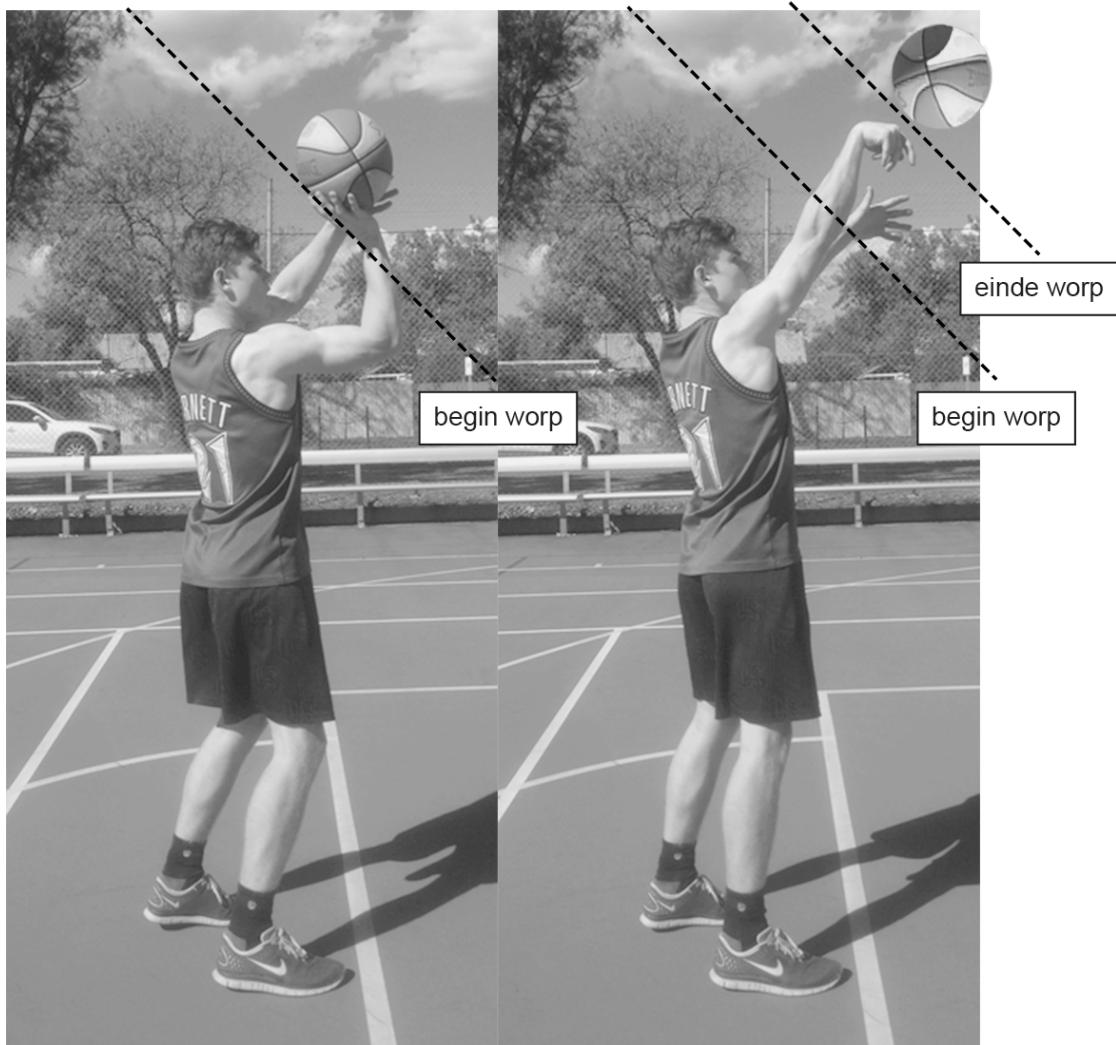
1



Naam kandidaat _____

Kandidaatnummer _____

2



- 5 Is resultaat A, B, D, E een gevolg van een variatie in de startwaarde van v_x of van v_y , vergeleken met resultaat C? Omcirkel steeds het juiste antwoord.

resultaat	is het gevolg van een variatie in de startwaarde van ...	
A	v_x	v_y
B	v_x	v_y
D	v_x	v_y
E	v_x	v_y

Toelichting:

.....

.....

.....

- 7 Geef van elke halfgeleider aan of deze op grond van de bandgap geschikt is voor gebruik in een Qled-tv. Omcirkel steeds het juiste antwoord.

halfgeleider	E_{gap} (eV)		
Si	1,12	geschikt	ongeschikt
CdSe	1,74	geschikt	ongeschikt
Si_3N_4	5,00	geschikt	ongeschikt
GaAs	1,43	geschikt	ongeschikt
GaP	2,26	geschikt	ongeschikt

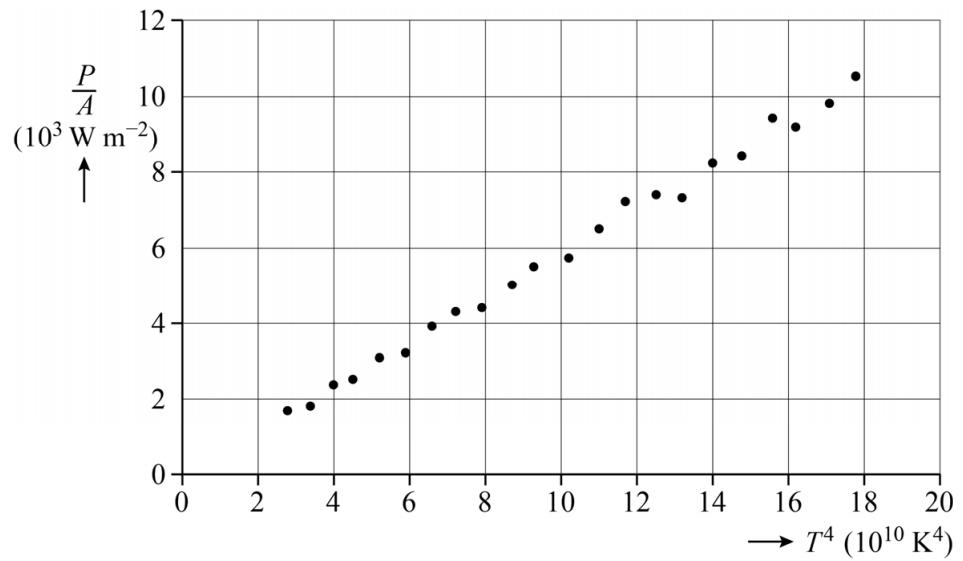
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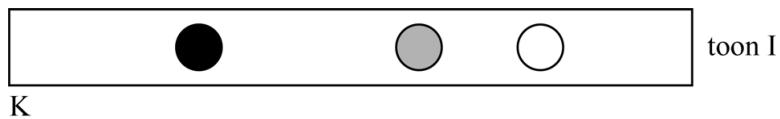
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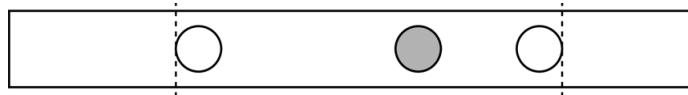


23



toon I

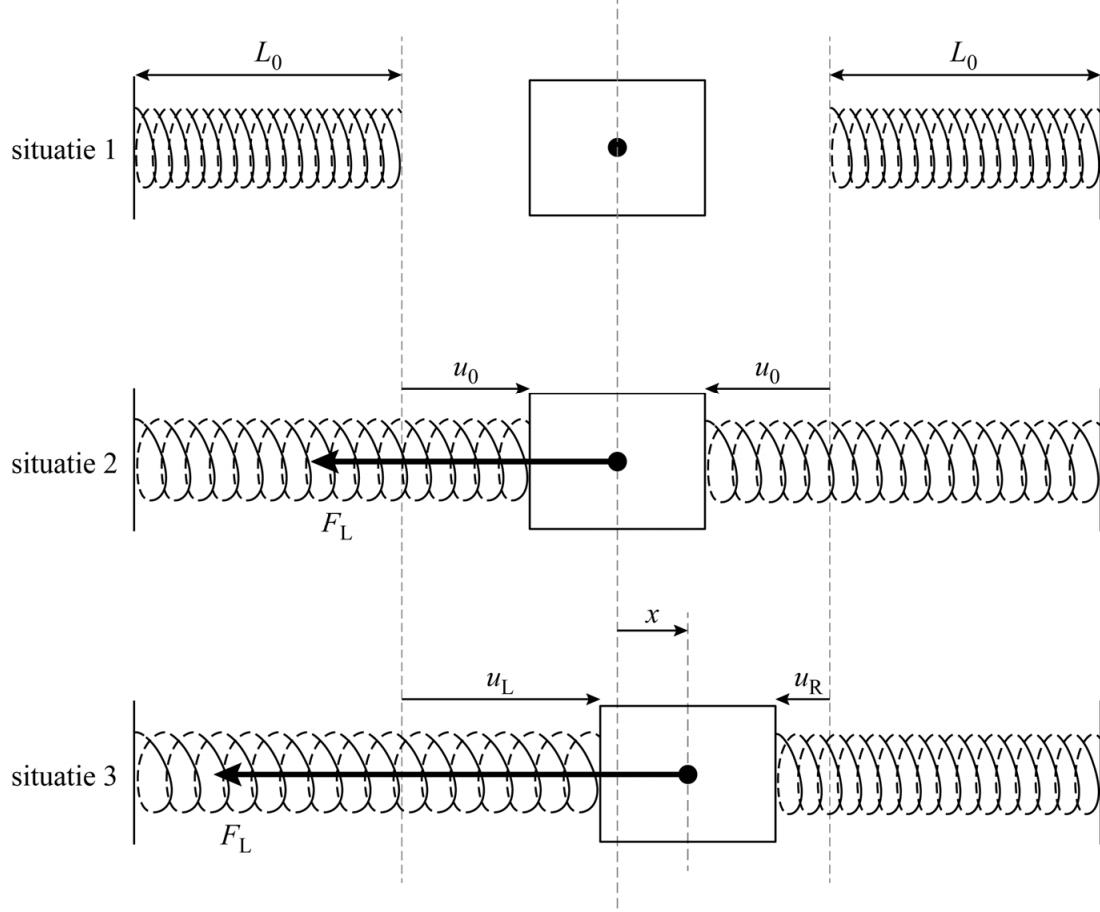
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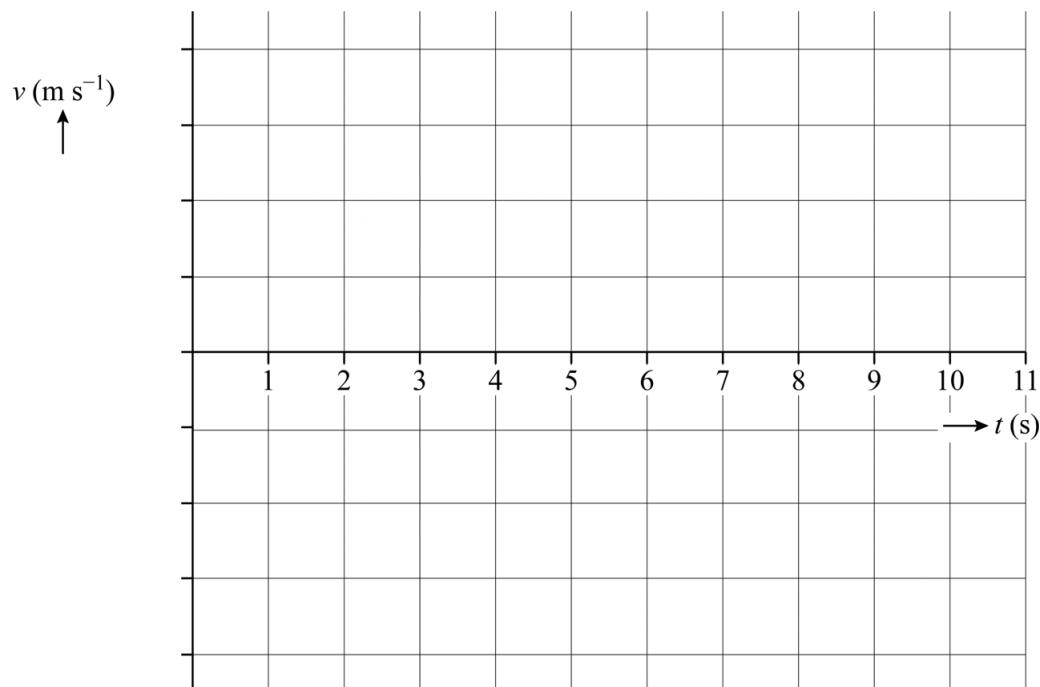
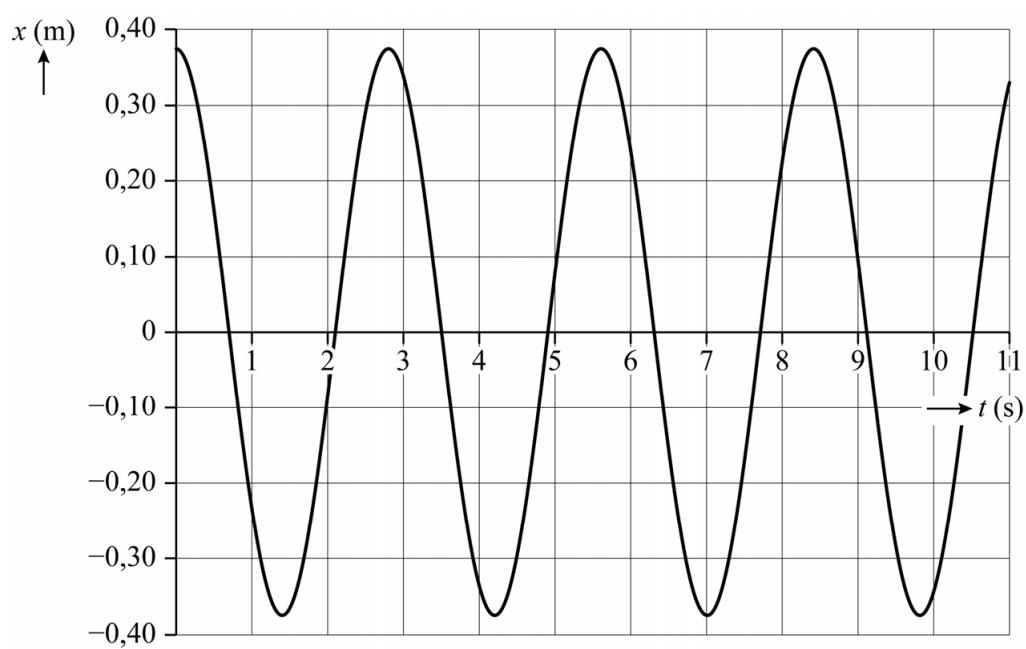
VERGEET NIET DEZE UITWERKBIJLAGE IN TE LEVEREN

uitwerkbijlage

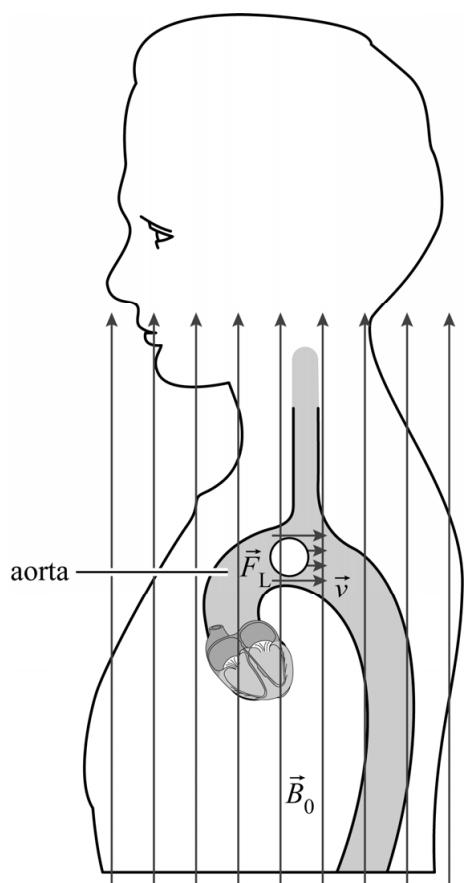
Naam kandidaat _____ Kandidaatnummer _____

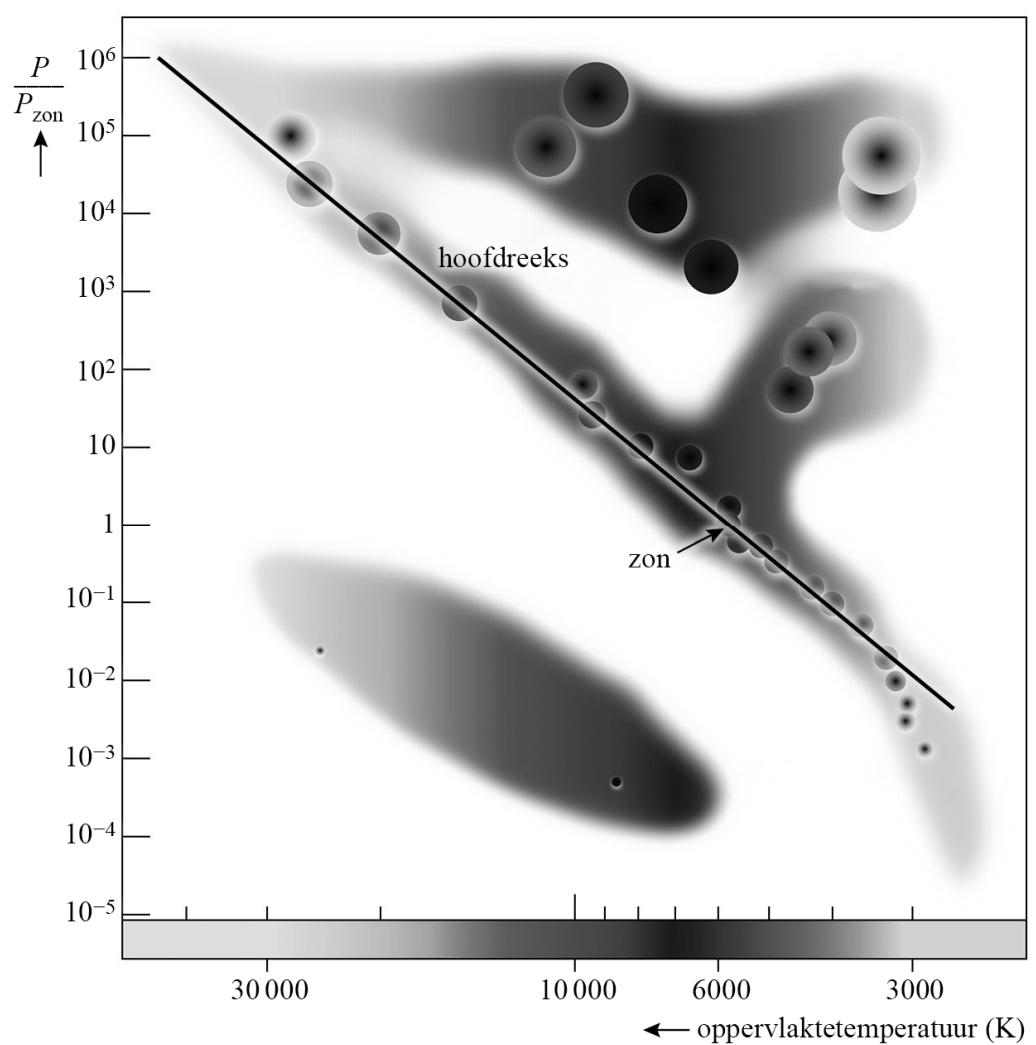
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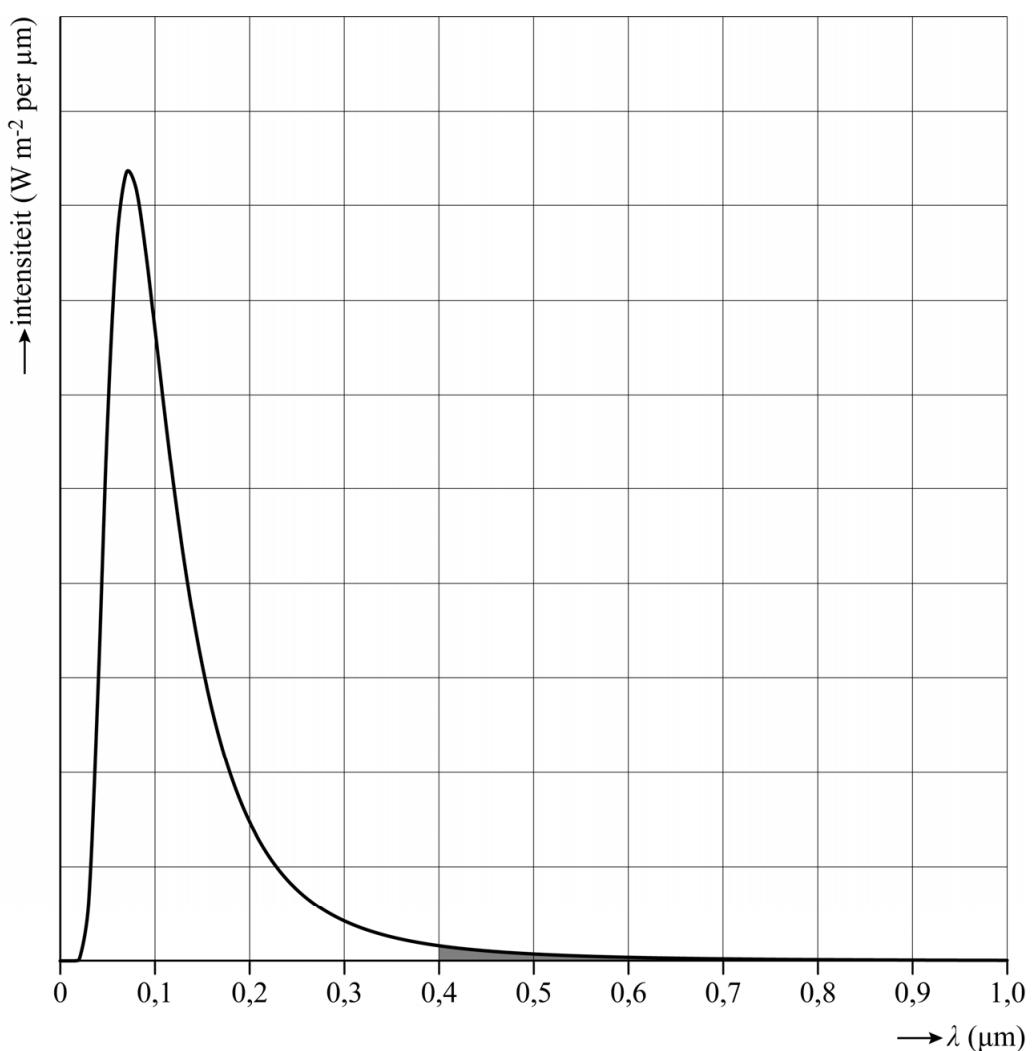
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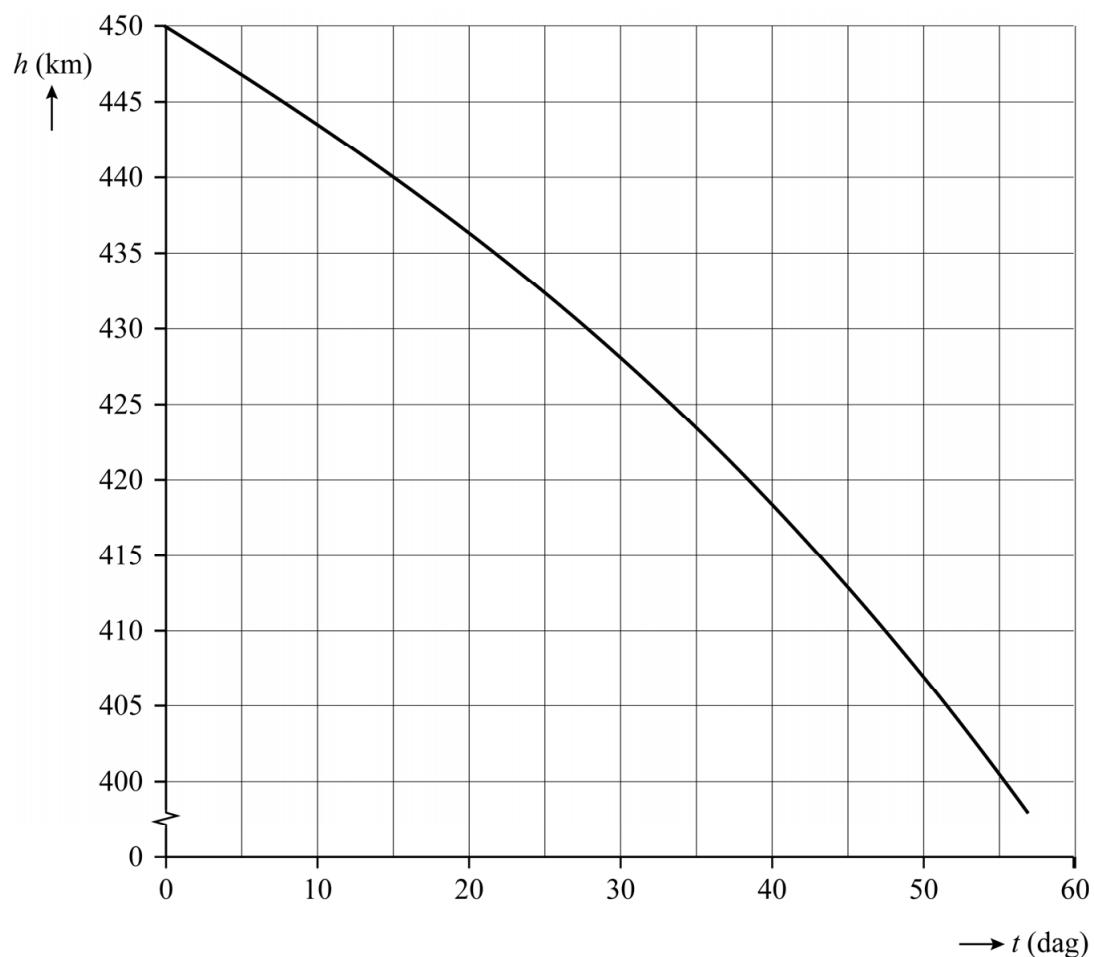
11







24



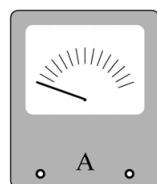
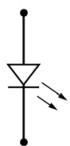
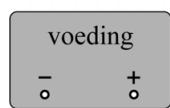
VERGEET NIET DEZE UITWERKBIJLAGE IN TE LEVEREN

uitwerkbijlage

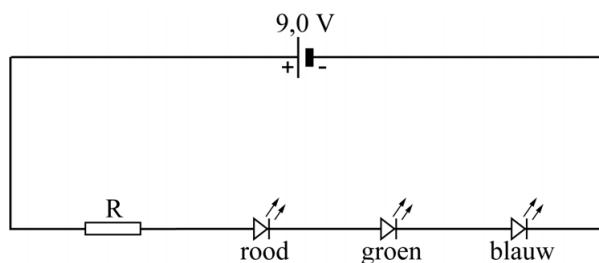
Naam kandidaat _____

Kandidaatnummer _____

1



4

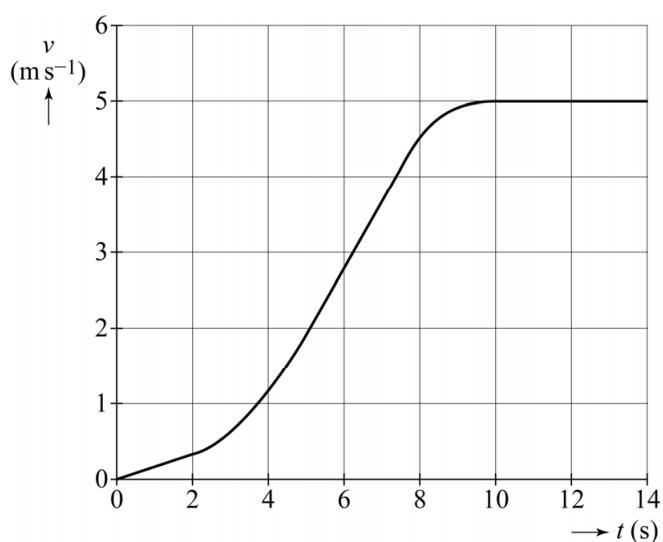


- 9 Geef van elke grootheid van L_1 aan of deze in vergelijking met dezelfde grootheid van L_2 groter, gelijk of kleiner is.

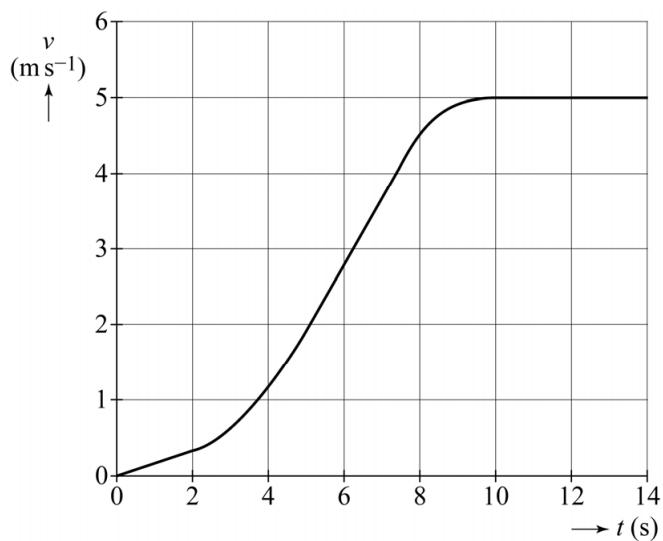
Kies uit: > = <

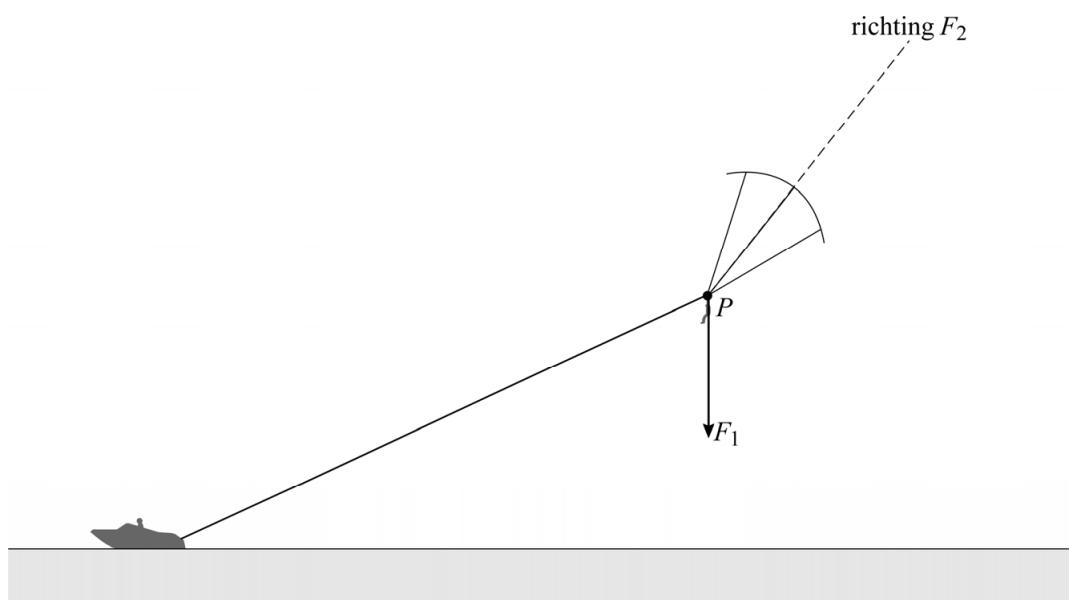
baanstraal	$r(L_1)$	$r(L_2)$
omlooptijd	$T(L_1)$	$T(L_2)$
baansnelheid	$v(L_1)$	$v(L_2)$
middelpuntzoekende kracht	$F_{\text{mpz}}(L_1)$	$F_{\text{mpz}}(L_2)$

15



16



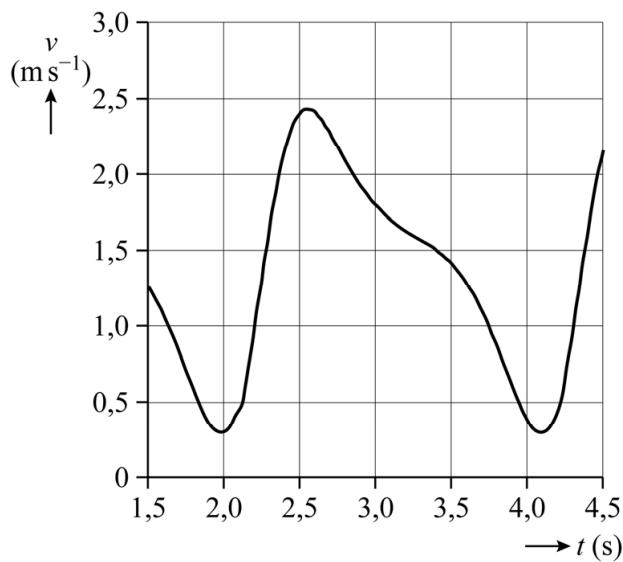
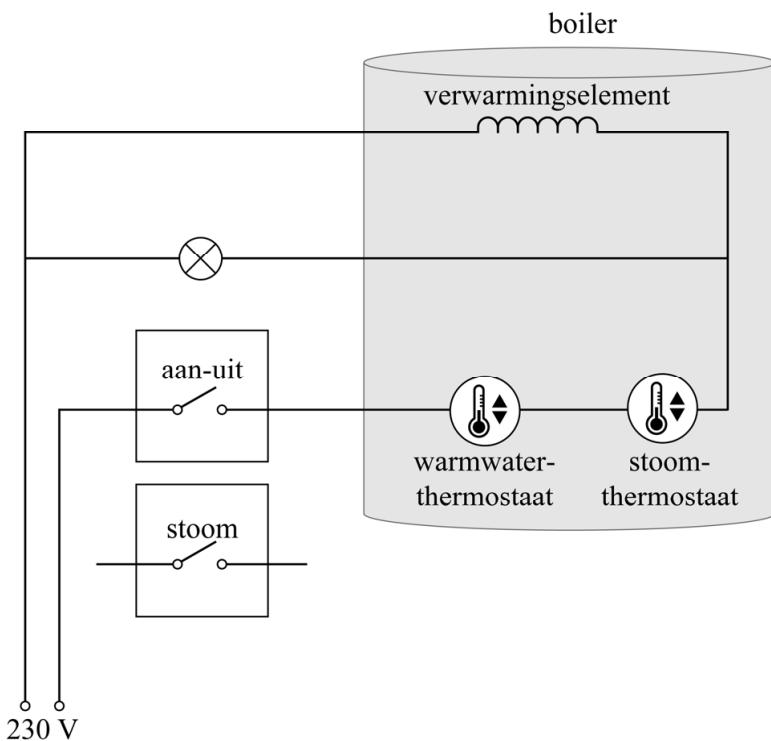


VERGEET NIET DEZE UITWERKBIJLAGE IN TE LEVEREN

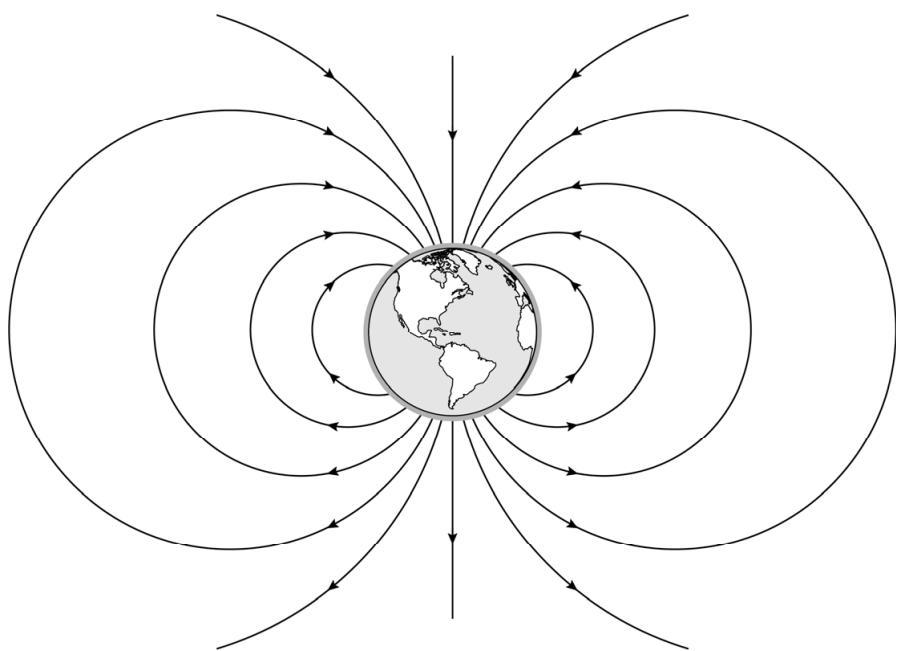
uitwerkbijlage

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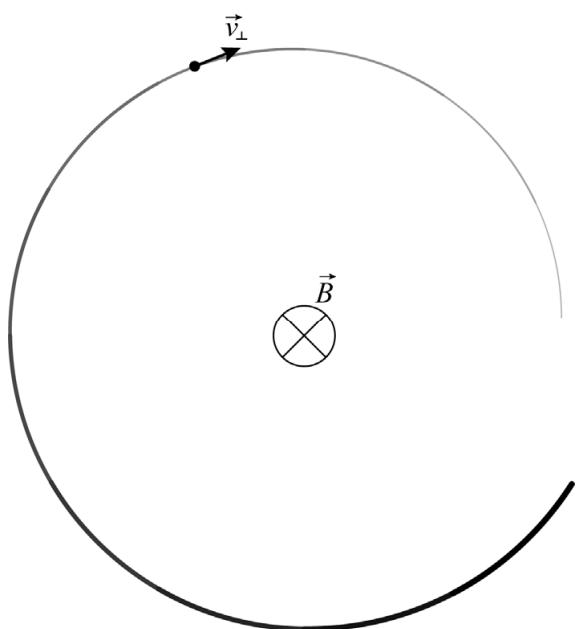
Kandidaatnummer _____

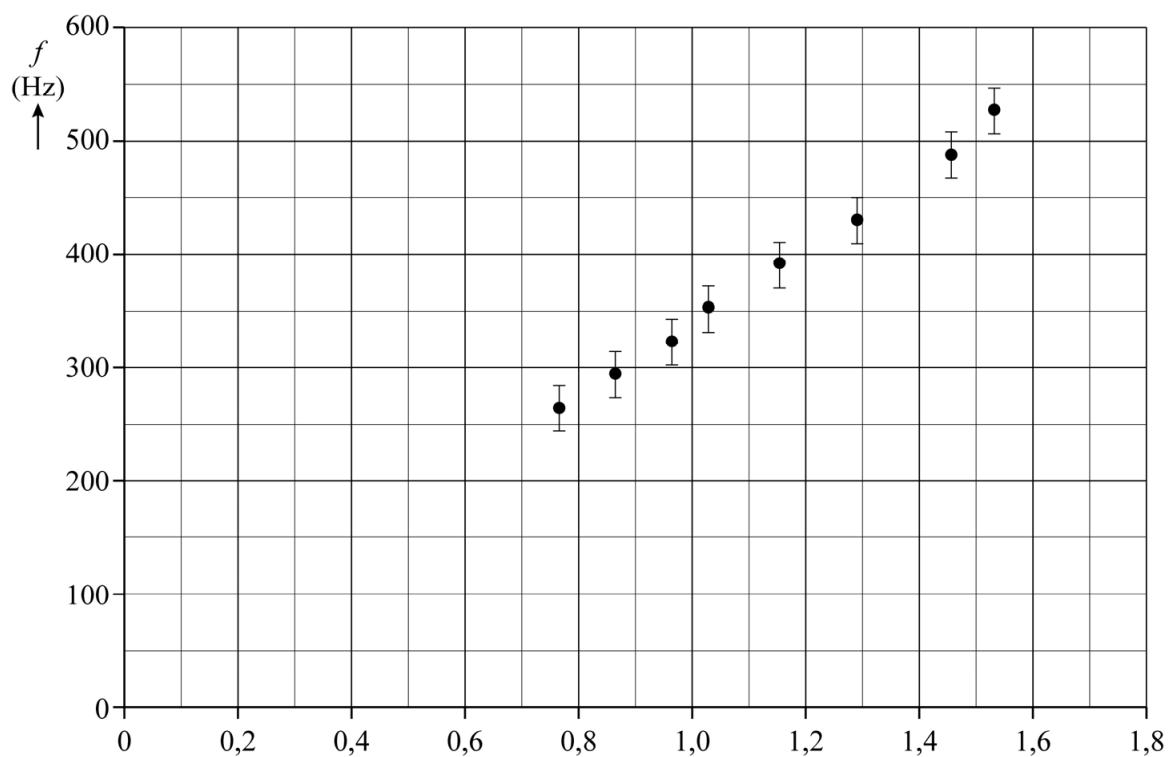
1**5, 6**

11



12





Bepaling, in twee significante cijfers, van de minimale en de maximale geluidssnelheid die uit de metingen volgen:

.....

.....

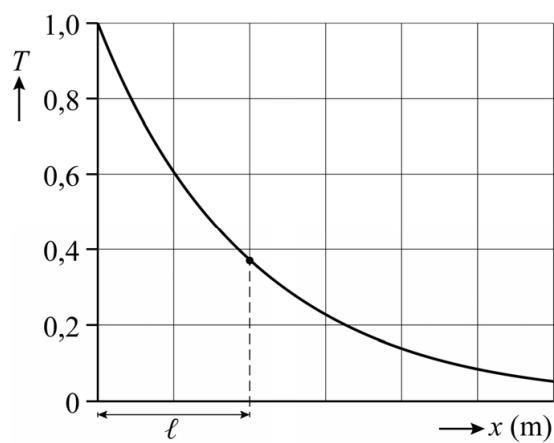
.....

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22



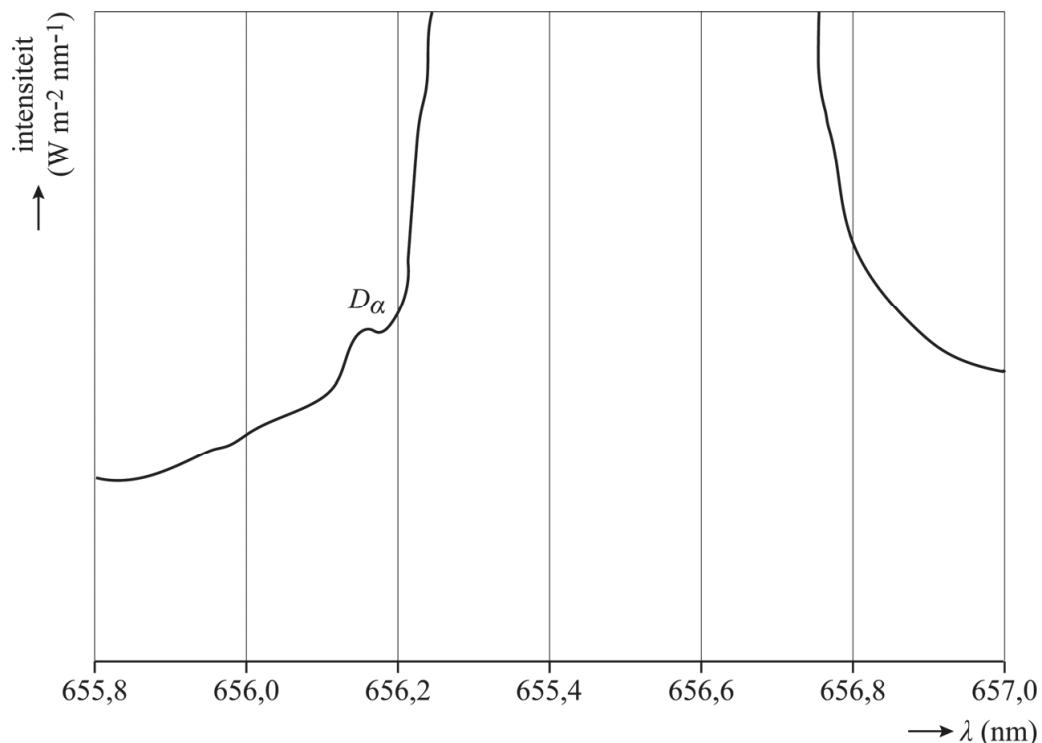
VERGEET NIET DEZE UITWERKBIJLAGE IN TE LEVEREN

uitwerkbijlage

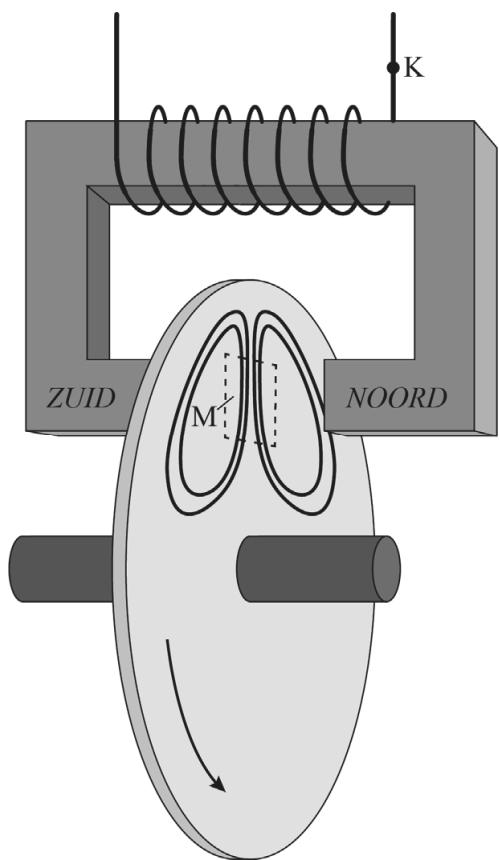
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Kandidaatnummer _____

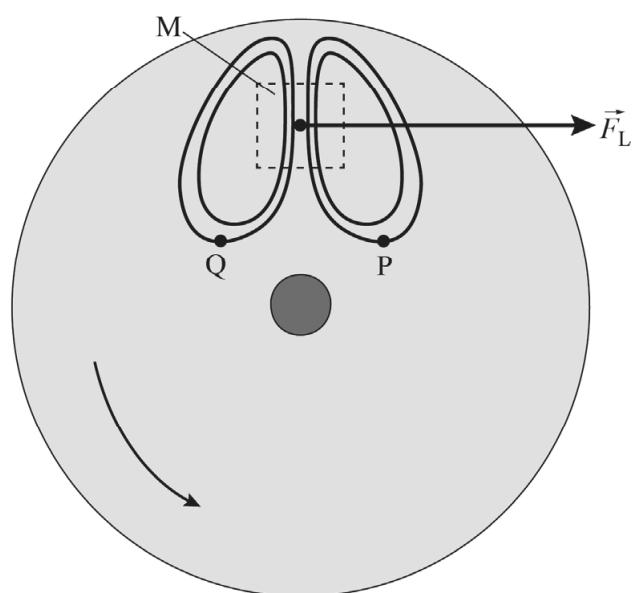
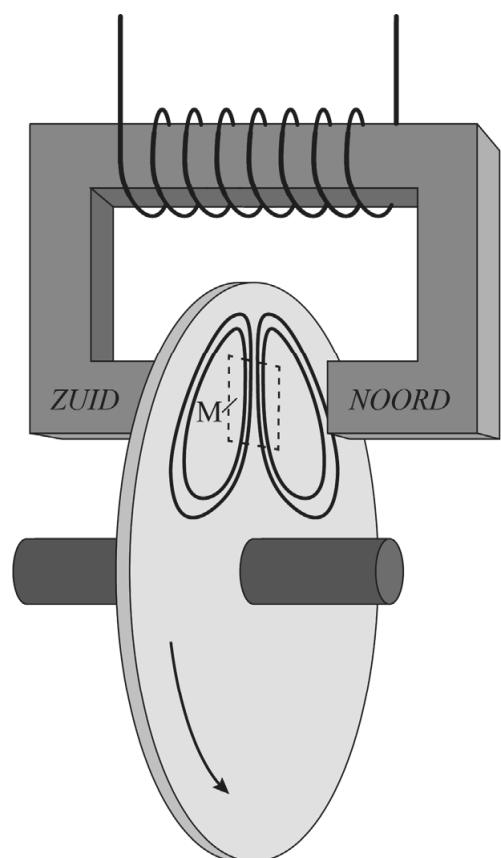
11



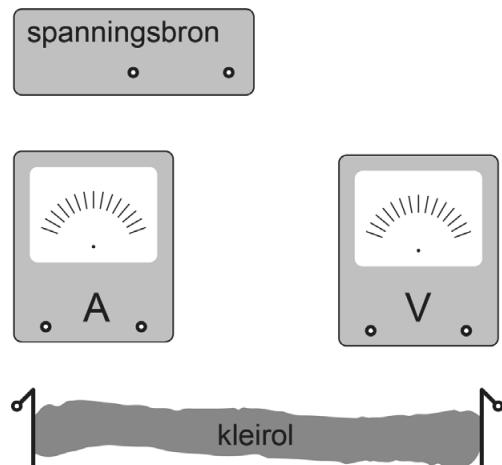
17



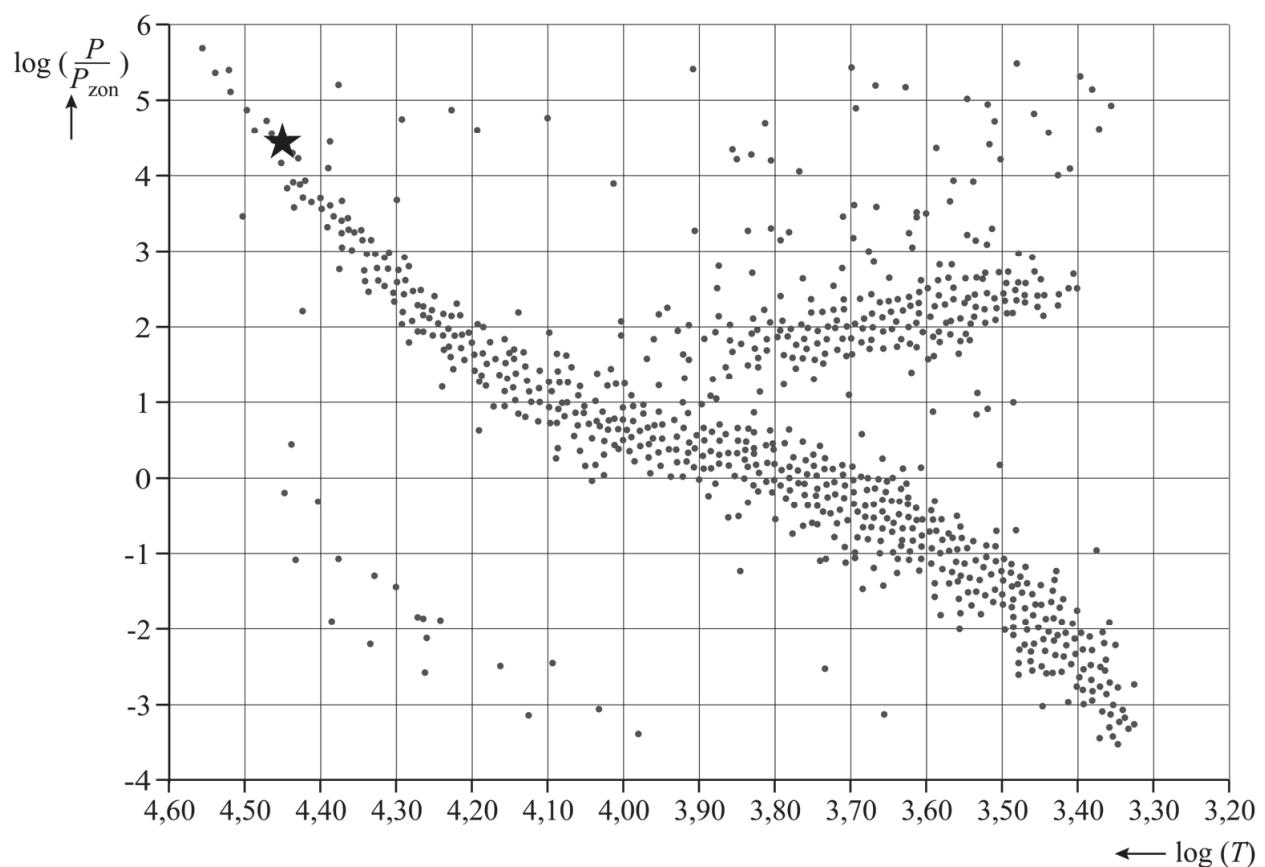
18



20



23

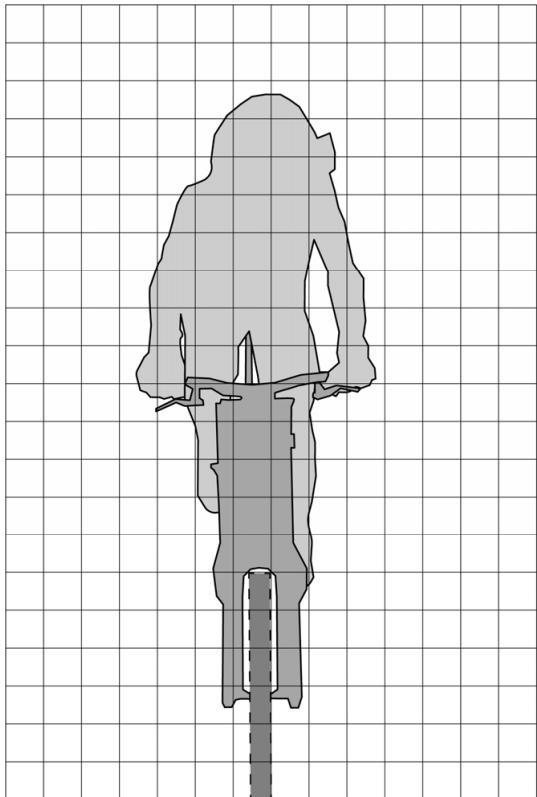


VERGEET NIET DEZE UITWERKBIJLAGE IN TE LEVEREN

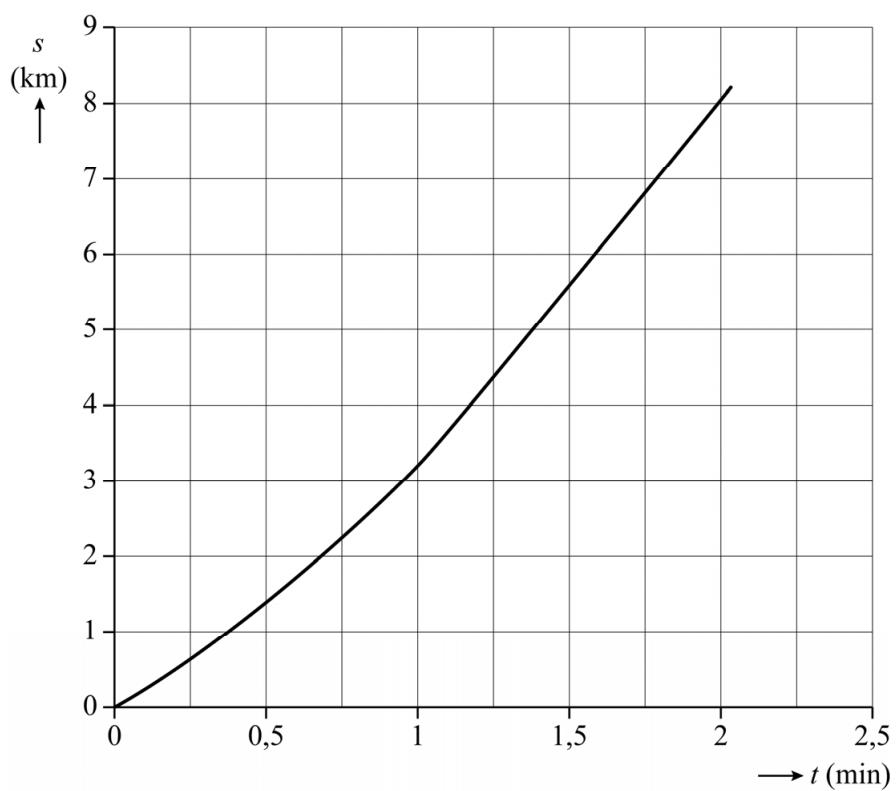
uitwerkbijlage

Naam kandidaat _____ Kandidaatnummer _____

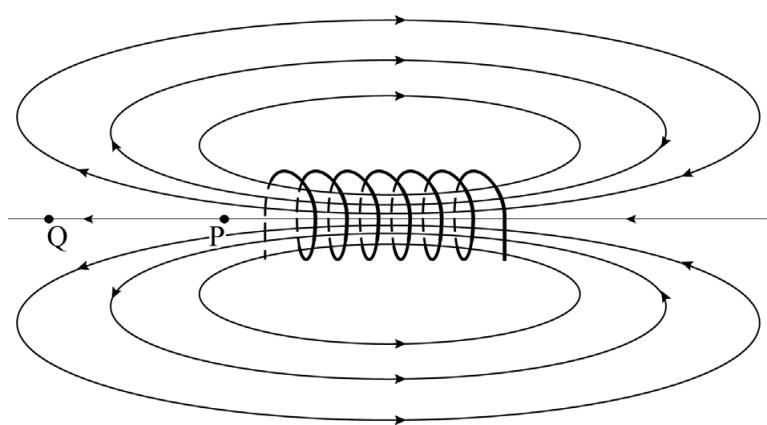
2



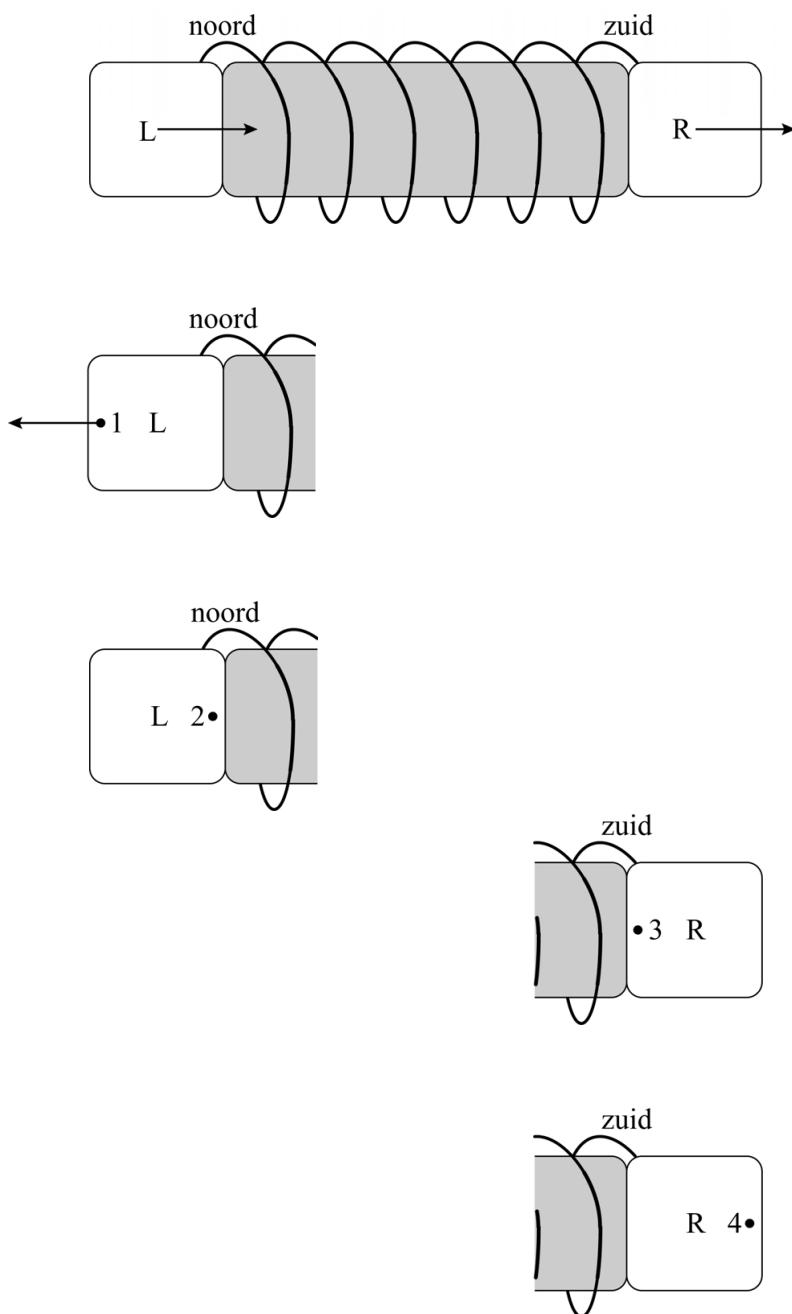
4



12



13



Geef, op basis van je tekening, in de tabel bij elk van de vier punten aan of er sprake is van een noordpool of een zuidpool. Zet steeds een kruisje in het juiste vak:

	noordpool	zuidpool
Punt 1 is een:		
Punt 2 is een:		
Punt 3 is een:		
Punt 4 is een:		

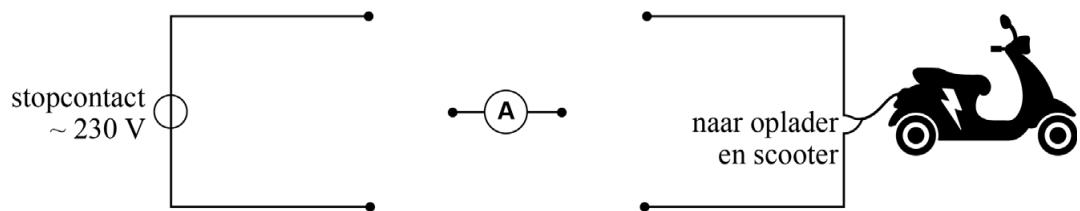
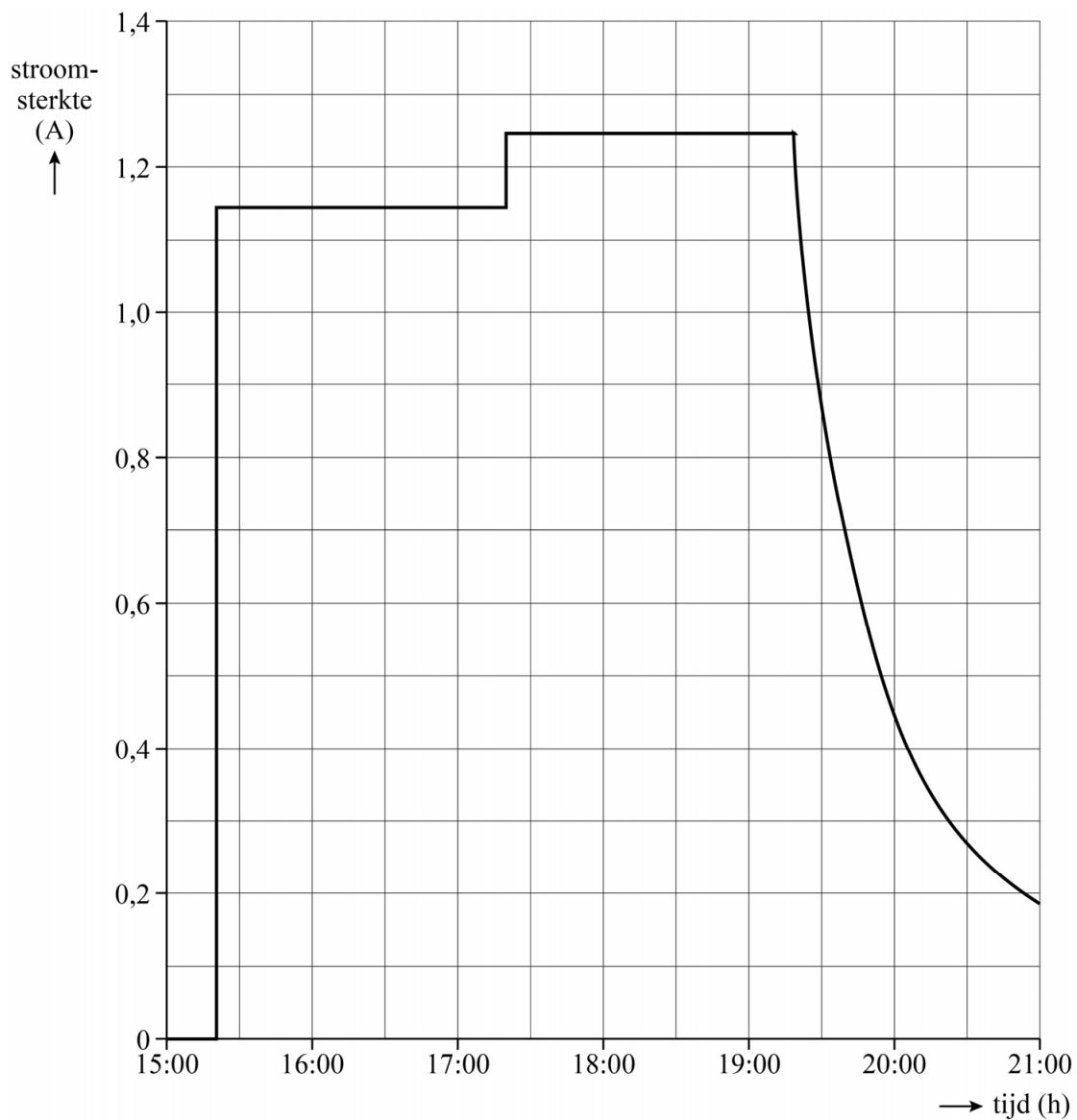
- 24 Geef in de tabel van elke bewering aan of die een juiste verklaring kan zijn voor de schaduw van de galstenen, of niet. Zet steeds een kruisje in het juiste vak:

bewering	kan een juiste verklaring zijn	kan geen juiste verklaring zijn
Het ultrasone geluid wordt door de galstenen geabsorbeerd.		
Het ultrasone geluid wordt door de galstenen gereflecteerd.		
Het ultrasone geluid buigt om de galstenen heen.		
Het ultrasone geluid kan niet verder dan 5 cm in weefsel doordringen.		

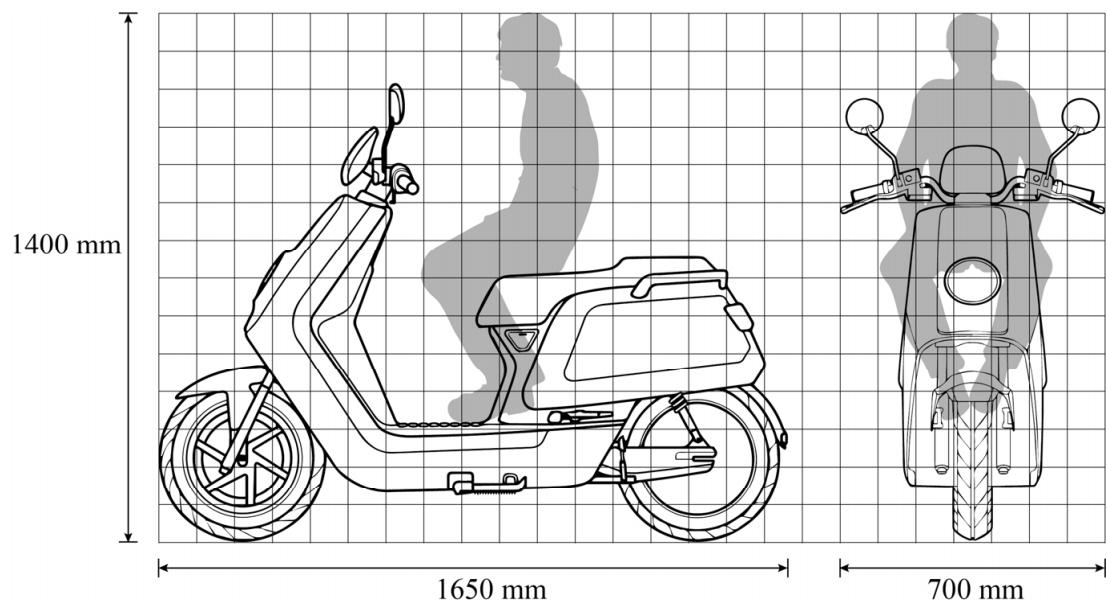
VERGEET NIET DEZE UITWERKBIJLAGE IN TE LEVEREN

uitwerkbijlage

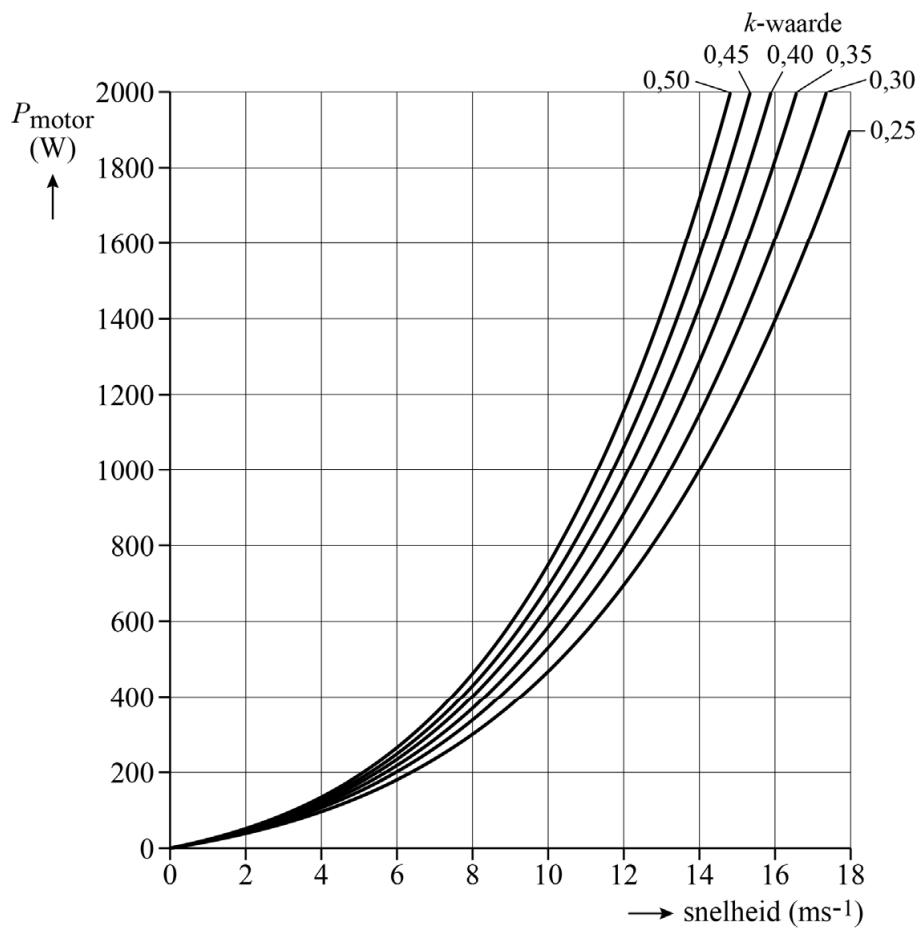
Naam kandidaat _____ Kandidaatnummer _____

1**2**

8



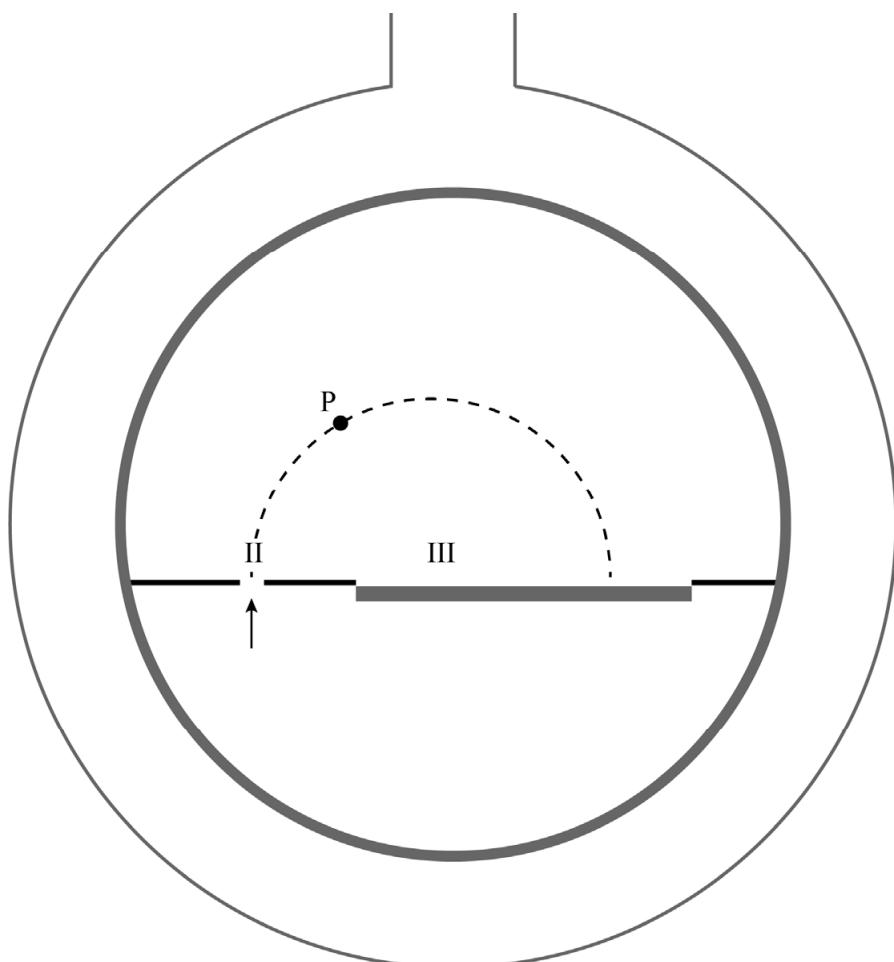
9



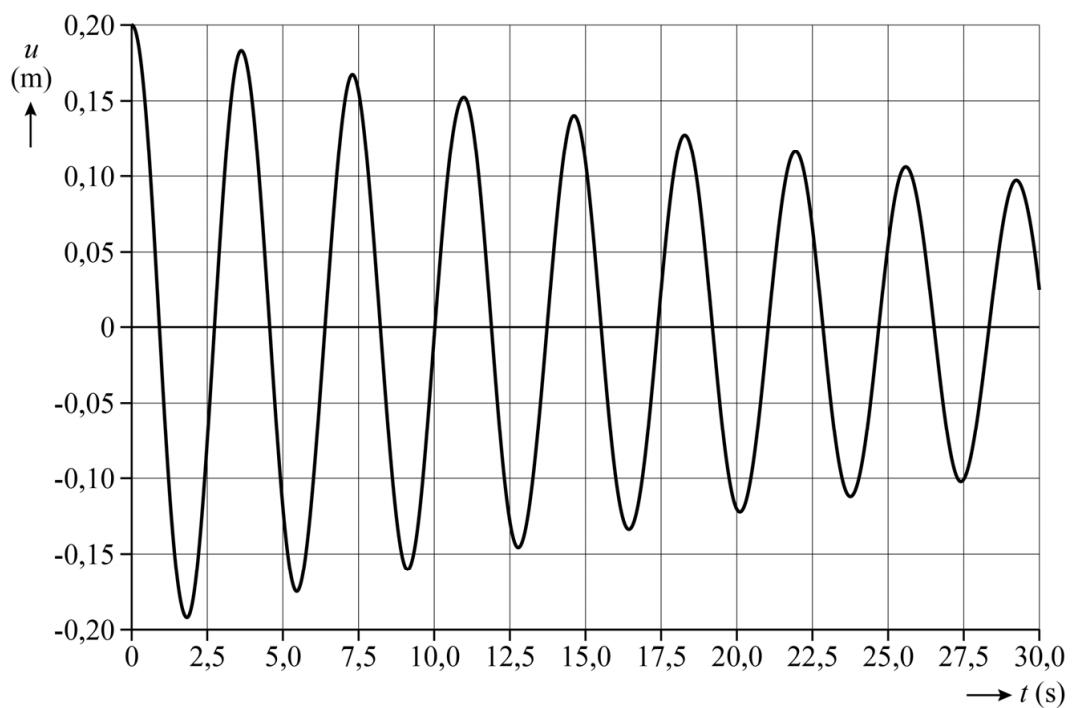
Naam kandidaat _____

Kandidaatnummer _____

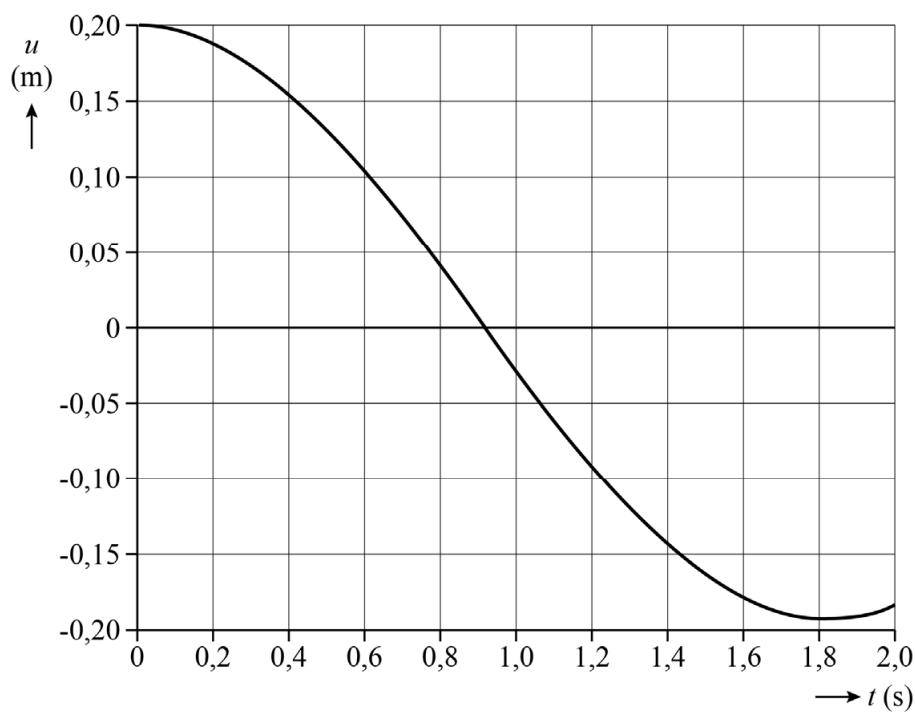
13



22



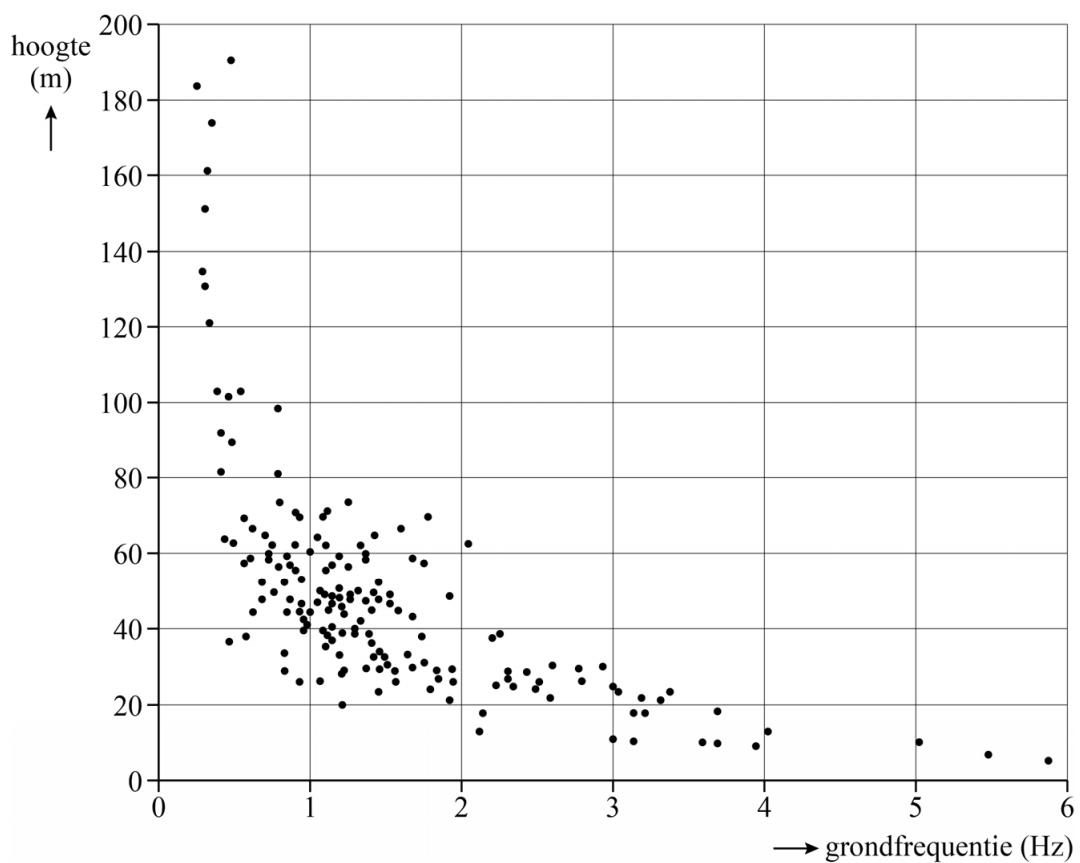
23



- 26** Toon aan of de vier punten aan een omgekeerd evenredig verband voldoen.

grondfrequentie (Hz)	hoogte (m)	
0,5	96	
1,5	32	
2,5	20	
4,0	12	

27



VERGEET NIET DEZE UITWERKBIJLAGE IN TE LEVEREN