Province of the
EASTERN CAPE
EDUCATION

Iphondo leMpuma Kapa: Isebe leMfundo
Provinsie van die Oos Kaap: Departement van Onderwys
Porofensie Ya Kapa Botjhabela: Lefapha la Thuto

NATIONAL SENIOR CERTIFICATE/ *NASIONALE SENIOR SERTIFIKAAT*

GRADE/*GRAAD 12*

JUNE/*JUNIE* 2026

PHYSICAL SCIENCES P1/*FISIESE WETENSKAPPE V1*
MARKING GUIDELINE/*NASIENRIGLYN*
FINAL AMENDED

MARKS/*PUNTE*: **150**

This marking guideline consists of 12 pages./
Hierdie nasienriglyn bestaan uit 12 bladsye.

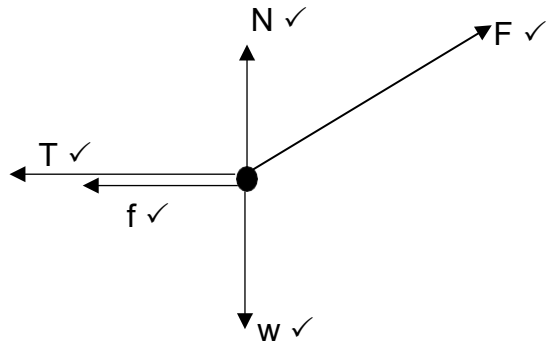
QUESTION/*VRAAG* 1

1.1	C ✓✓	(2)
1.2	A ✓✓	(2)
1.3	D ✓✓	(2)
1.4	C✓✓	(2)
1.5	B ✓✓	(2)
1.6	B✓✓	(2)
1.7	A ✓✓	(2)
1.8	B ✓✓	(2)
1.9	D ✓✓	(2)
1.10	B ✓✓	(2)

[20]

QUESTION/*VRAAG 2*

2.1



N	F_N, Normal force/ *Normaalkrag*
F	F_{app} ,F_A, $F_{applied}$, Applied force / $F_{toegepas}$/ *Toegepastekrag*
T	F_T, Tension/ *Spanning*
f	f_k, F_f, Frictional force/ *Wrywingskrag*
w	F_g, weight, gravitational force/ *gewig/ gravitasiekrag*

Mark awarded for arrow and label/ / *Punt toegeken vir pyltjie en benoeming*
Do not penalise for length of arrows since drawing is not drawn to scale, *Moenie penaliseer vir die lengte van die pyltjies nie aangesien teken nie volgens skaal geteken is nie.*

Any other additional force(s)/ *Enige addisionele kragte* ⅘
If force(s) do not make contact with body/ *As kragte nie kontak maak met liggaam* Max/*Maks* ⅘ (5)

2.2 $N = mg - F\sin\theta$ ✓
$33,43$ ✓$= \underline{6 \times 9,8 - F\sin 25^\circ}$ ✓
$F = 60,03$ N ✓ (4)

2.3 It is a ratio of two forces / *Dit is 'n verwantskap tussen twee kragte*. ✓ (1)

2.4 When a <u>resultant/net force</u> acts on an object, the object accelerates in the direction of the force with an <u>acceleration directly proportional to the force</u> ✓ and <u>inversely proportional to the mass</u> of the object. ✓
Wanneer 'n <u>resulterende/netto krag</u> op 'n voorwerp inwerk, versnel die voorwerp in die rigting van die krag met 'n <u>versnelling direk eweredig aan die krag</u> en <u>omgekeerd ewerewig aan die massa</u> van die voorwerp. (2)

OR

The net (resultant) force acting on an object is equal to the rate of change of momentum ***(2 or 0)***
Die netto (resulterende) kragt wat op 'n voorwerp in werk is gelyk aan die verandering in momentum ***(2 or 0)***

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2.5 2.5.1 $f_k = \mu_k N$ ✓
$f_k = 0,15 \times 3 \times 9,8$ ✓
$f_k = 4,41$ N left ✓ (3)

POSITIVE MARKING FROM QUESTION 2.2 and 2.5.1/*POSITIEWE NASIEN VANAF VRAAG 2.5.1*

2.5.2 $F_{net} = ma$
$F\cos\theta - f - T = ma$ - Any one/ *Enige een* ✓
$T - f = ma$
$\underline{60,03\cos 25^\circ}$ - $\underline{(0,15 \times 33,43)}$ ✓ - T = 6a ✓

Substituting/ *Vervanging* 6a or/*of* 3a

$\underline{T - 4,41}$ ✓= 3a

$F_{net} = T - f_k$

$T - 4,41 = 3a$

(5)

$a = 5,00$ m.s^{-2} ✓

2.6 To the right. ✓ According to Newton's first law, an object will continue in its state of rest or motion at constant velocity unless a non-zero net force acts on it. ✓✓

According to Newton's 1st law the object will maintain its original inertia.

Independent marking (3)

Na regs. Volgens Newton se eerste wet sal 'n voorwerp in sy toestand van rus of beweging teen konstante snelheid voortgaan, tensy 'n netto krag wat nie nul is nie, daarop inwerk.

[23]

QUESTION/*VRAAG* 3

3.1 An object (which has been given an initial velocity) and then it moves under the influence of the gravitational force only. **(0 or 2)** ✓✓
Dit is 'n voorwerp waaraan 'n beginsnelheid gegee is en wat dan slegs onder die invloed van die gravitasiekrag beweeg. (2)

3.2 9,8 $m.s^{-2}$ ✓ downwards/ *afwaarts* ✓ (2)

3.3.1

UPWARD POSITIVE/*POSITIEF OPWAARTS*

$\Delta y = v_i\Delta t + \frac{1}{2} a\Delta t^2$
-50 ✓ $= 0 \times \Delta t + \frac{1}{2} \times (-9,8)\Delta t^2$ ✓
$\Delta t = 3,19$ s
$t = \underline{1,5 +}\ 3,19$ ✓
$t = 4,69$ s

add 2nd option v_f 1st of ball b
$v_f = v_i + a\Delta t$
$v_f = 0 + (-9,8) \times 3,19$ ✓
$v_f = -31,26$
$v_f = 31,26$ $m.s^{-1}$
$-31,26$✓ $= 0 + (-9,8) \times \Delta t$ ✓
$\Delta t = 3,19$ s
$t = \underline{1,5 +}\ 3,19$ ✓
$t = 4,69$ s✓

UPWARD NEGATIVE/*NEGATIEF OPWAARTS*

$\Delta y = v_i\Delta t + \frac{1}{2} a\Delta t^2$ ✓
50 ✓ $= 0 \times \Delta t + \frac{1}{2} \times (9,8)\Delta t^2$ ✓
$\Delta t = 3,19$ s
$t = \underline{1,5} + 3,19$ ✓
$t = 4,69$ s ✓ (5)

$v_f = v_i + a\Delta t$
$v_f = 0 + (9,8) \times 3,19$ ✓
$v_f = 31,26$
$v_f = 31,26$ $m.s^{-1}$
$31,26$✓ $= 0 + (9,8) \times \Delta t$ ✓
$\Delta t = 3,19$ s

$t = \underline{1,5 +}\ 3,19$ ✓
$t = 4,69$ s✓

OPTION 1 / *OPSIE 1*

3.3.2 **POSITIVE MARKING FROM/*POSITIEWE NASIE VANAF* 3.3.1**

UPWARD POSITIVE/*POSITIEF OPWAARTS*

$v_f = v_i + a\Delta t$ ✓
$v_f = 0 + (-9,8) \times 3,19$ ✓
$v_f = -31,26$
$v_f = 31,26$ $m.s^{-1}$ downwards/*afwaarts* ✓

UPWARD NEGATIVE/*NEGATIEF OPWAARTS*

$v_f = v_i + a\Delta t$ ✓
$v_f = 0 + (9,8) \times 3,19$ ✓
$v_f = 31,26$ $m.s^{-1}$ downwards/*afwaarts* ✓

OPTION 2 / *OPSIE 2*

UPWARD POSITIVE/*POSITIEF OPWAARTS*

$v_f^2 = v_i^2 + 2a\Delta y$ ✓
$v_f^2 = 0^2 + 2(-9,8)(-50)$ ✓
$v_f = 31,30$ $m.s^{-1}$ downwards/*afwaarts* ✓

UPWARD NEGATIVE/*NEGATIEF OPWAARTS*

$v_f^2 = v_i^2 + 2a\Delta y$ ✓
$v_f^2 = 0^2 + 2(9,8)(50)$ ✓
$v_f = 31,30$ $m.s^{-1}$ downwards/*afwaarts* ✓

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OPTION 3 / *OPSIE 3*

POSITIVE MARKING FROM/*POSITIEWE NASIE VANAF* 3.3.1

UPWARD POSITIVE/*POSITIEF OPWAARTS*

$\Delta y = \frac{v_f \pm v_i}{2} \Delta t$ ✓

$-50 = \frac{v_f + 0}{2} \times 3{,}19$ ✓

$v_f = -31{,}35$

$v_f = 31{,}35$ m.s^{-1} downwards/*afwaarts* ✓

UPWARD NEGATIVE/*NEGATIEF OPWAARTS*

$\Delta y = \frac{v_f \pm v_i}{2} \Delta t$ ✓

$50 = \frac{v_f + 0}{2} \times 3{,}19$ ✓

$v_f = 31{,}35$ m.s^{-1} downwards/*afwaarts* ✓ (3)

3.3.3 **POSITIVE MARKING FROM / *POSITIEWE NASIE VANAF* 3.3.1**

UPWARD POSITIVE / *POSITIEF OPWAARTS*

$\Delta y = v_i \Delta t + \frac{1}{2} a \Delta t^2$ ✓

-50 ✓ $= \underline{v_i \times 4{,}69 + \frac{1}{2}(-9{,}8)(4{,}69)^2}$ ✓

$v_i = 12{,}32$ m.s^{-1} upwards/ *opwaarts* ✓

UPWARD NEGATIVE/ *NEGATIEF OPWAARTS*

$\Delta y = v_i \Delta t + \frac{1}{2} a \Delta t^2$ ✓

50✓ $= v_i \times 4{,}69 + \frac{1}{2}(9{,}8)(4{,}69)^2$ ✓

$v_f = -12{,}32$ m.s^{-1}

$v_f = 12{,}32$ m.s^{-1} upwards / *opwaarts* ✓ (4)

3.3.4 **POSITIVE MARKING FROM/*POSITIEWE NASIE VANAF* 3.3.3**

UPWARD POSITIVE/*POSITIEF OPWAARTS*

$v_f^2 = v_i^2 + 2a\Delta y$ ✓

$\underline{0^2 = 12{,}32^2 + 2 \times -9{,}8 \times \Delta y}$ ✓

$\Delta y = 7{,}74$ m

Height /*hoogte* = $\underline{50 +}$ 7,74 ✓

Height /*hoogte* = 57,74 m ✓

UPWARD NEGATIVE/*NEGATIEF OPWAARTS*

$v_f^2 = v_i^2 + 2a\Delta y$ ✓

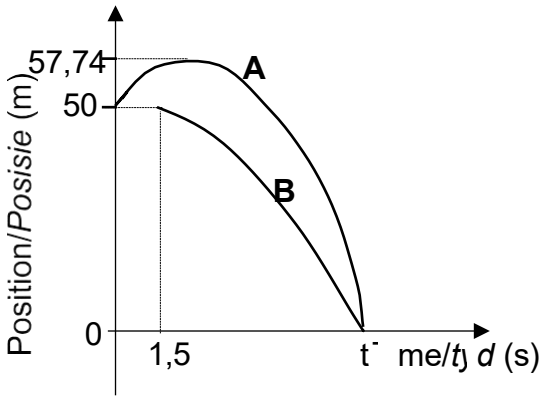
$\underline{0^2 = -12{,}32^2 + 2 \times 9{,}8 \times \Delta y}$ ✓

$\Delta y = 7{,}74$ m

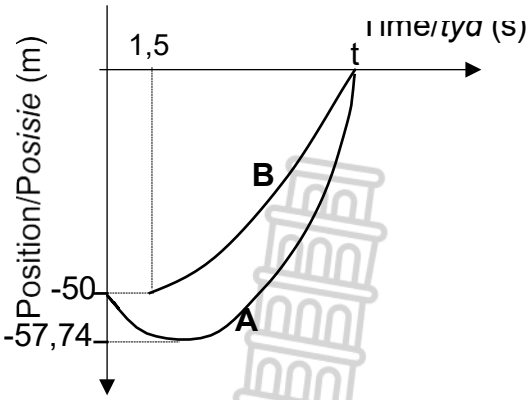
Height/*hoogte* = $\underline{50 +}$ 7,74 ✓

Height/*hoogte* = 57,74 m ✓ (4)

3.4 **UPWARD POSITIVE/*POSITIEF OPWAARTS***



UPWARD NEGATIVE/*NEGATIEF OPWAARTS*



Marking criteria/ *Nasienkriteria*	
Shape / *Vorm*	✓
Time / *tyd*, t / 4,69 s	✓
Position /*Posisie* 50 m and B starting at 1,5 s	✓
Maximum height / *Maksimum hoogte* 57,74 m	✓

Deduct 1 mark if axes are not labelled
Trek 1 punt af indien asse nie benoem is nie

(4)

[24]

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QUESTION/*VRAAG 4*

4.1 Product of an object mass and velocity. ✓✓
Die produk van 'n voorwerp se massa en sy snelheid. **(2 OR/*OF* 0)** (2)

4.2 Cart / *Karretjie* A, v = 2 m.s^{-1}. ✓Cart/ *Karretjie* B = 1,5 m.s^{-1} ✓ (2)

4.3 4.3.1

OPTION/*OPSIE* 1

$\sum p_i = \sum p_f$
$m_A v_i + m_B v_i = (m_A + m_B) v_f$ ✓ Any one/ *Enige een*
$\underline{1(2) + 2(-1,5)}$ ✓ $= \underline{(1 + 2)v_f}$ ✓
$v_f = -0,33$ m.s^{-1}
$= 0,\underline{33}$ m.s^{-1} west/*wes* ✓

OPTION/*OPSIE* 2

$\sum p_i = \sum p_f$
$m_A v_i + m_B v_i = (m_A + m_B) v_f$ Any one/*Enige een* ✓
$\underline{1(-2) + 2(1,5)}$ ✓ $= \underline{(1 + 2)v_f}$ ✓
$v_f = \underline{0,33}$ m.s^{-1} west/*wes* ✓

$\Delta p_a = -\Delta p_b$

(4)

CONSIDER:
The graph is misleading (some learners are answering EAST), and therefore it will be fair to ignore the direction in the answer for Q 4.3.1

4.3.2

Positive marking form Q 4.3.1	**OPTION/*OPSIE 2***
OPTION/*OPSIE 1*	**Object B: East as -**
Object B: East as +	
$F_{net}\Delta t = \Delta p$ Any one /*Enige een* ✓ $F_{net}\Delta t = mv_f - mv_i$ $\underline{F_{net}\ (0,02)}$ ✓ $= \underline{2(-0,33) - 2(-1,5)}$ ✓ $F_{net} = \underline{117\ N}$ east/*oos* ✓	$F_{net}\Delta t = \Delta p$ Any one /Enige een ✓ $F_{net}\Delta t = mv_f - mv_i$ $\underline{F_{net}\ (0,02)}$ ✓ $= \underline{2(0,33) - 2(1,5)}$ ✓ $F_{net} = -117$ N $= \underline{117\ N}$ east/*oos* ✓
OPTION/*OPSIE 3*	**OPTION /*OPSIE 4***
Object A: East as +	**Object A: East as -**
$F_{net}\Delta t = \Delta p$ Any one /*Enige een* ✓ $F_{net}\Delta t = mv_f - mv_i$ $\underline{F_{net}\ (0,02)}$ ✓ $= \underline{1(-0,33) - 1(2)}$ ✓ $F_{net} = -116,5$ N $= 116,5$ N west/*wes* F_{net}(A on B) = 116,5 N east/*oos*✓	$F_{net}\Delta t = \Delta p$ Any one /*Enige een* ✓ $F_{net}\Delta t = mv_f - mv_i$ $\underline{F_{net}\ (0,02)}$ ✓ $= \underline{1(0,33) - 1(-2)}$ ✓ $F_{net} = 116,5$ N west/*wes* $F_{net\ (A\ on\ B)} = 116,5$ N east/*oos* ✓

(4)

CONSIDER: Answer /Antwoord in Q 4.3.1/V 4.3.1 vf = $\underline{0,33}$ m.s^{-1} east/*oos*

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Object B: East as +	**Object A: East as +**
$F_{net}\Delta t = \Delta p$ / $F_{net}\Delta t = mv_f - mv_i$ Any one /*Enige een* ✓ $F_{net}(0,02)$ ✓ = $2(0,33) - 2(-1,5)$ ✓ F_{net} = 183 N east/*oos* ✓	$F_{net}\Delta t = mv_f - mv_i$ $F_{net}(0,02)$ ✓ = $1(0,33) - 1(2)$ ✓ F_{net} = 83,5 N east/*oos* ✓

4.4 Zero/ nul ✓ Add **0** (1)

4.5 Positive marking from Q 4.3.1

$E_k = ½mv^2$ ✓

$E_{ki} = ½(1)(2)^2 + ½(2)(1,5)^2$ ✓ = 4,25 J

$E_{kf} = ½ x(1+ 2)(0,33)^2$ ✓

E_{kf} = 0,16 J

$E_{ki} \neq E_{kf}$ ✓

Collision is inelastic / *Botsing is onelasties* ✓ (5)

[18]

QUESTION/*VRAAG 5*

5.1 The force for work done in moving an object between two point depends on the path taken. ✓✓ **(0 or 2)**
Die krag waarvoor die arbeid verrig om 'n voorwerp tussen twee punte te beweeg, is afhanklik van die roete wat gevolg word. (2)

5.2 Frictional force / *Wrywingskrag* ✓ (1)

5.3 No/*Nee* ✓
It is not isolated system/ *Die sisteem is nie geïsoleerd nie* ✓
There is frictional force/ *Daar is 'n wrywingkrag*.
There is a non-conservative force/ *Daar is 'n nie-konserwatiewe krag*. (2)

OPTION 1 / *OPSIE 2*

5.4 $W_{net} = \Delta E_k$
$W_f = ½ mv_f^2 - ½ mv_i^2$
$f\Delta x\cos\theta = ½ mv_f^2 - ½ mv_i^2$ Any one/*Enige een* ✓
$30 \times 2\cos 180^o$ ✓ $= ½ \times 3 v_f^2 - ½ \times 3 \times 7^2$ ✓
$v_f = 3\ m.s^{-1}$

OPTION 2 / *OPSIE 2*

$W_{nc} = \Delta E_p + \Delta E_k$
$W_{nc} = mgh_f - mgh_i + ½ mv_f^2 - ½ mv_i^2$
$W_f = mgh_f - mgh_i + ½ mv_f^2 - ½ mv_i^2$ Any one/ *Enige een* ✓
$30\Delta x\cos 180^o$ ✓$= 0 + ½ \times 3 v_f^2 - ½ \times 3 \times 7^2$ ✓
$v_f = 3\ m.s^{-1}$ (3)

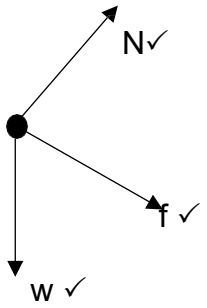
OPTION 3

$F_{net} = ma$

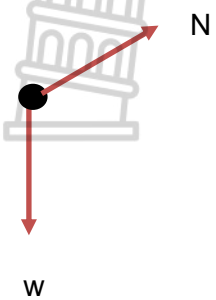
$30 = (3)a$✓

$a = 10\ m.s^{-2}$
$v_f^2 = v_i^2 + 2a\Delta y$ ✓
$v_f^2 = 7^2 + 2(10)(2)$ ✓
$v_f = 3\ m.s^{-1}$

5.5



Accept this diagram



	N	F_N, Normal force / *Normaalkrag*
	f	~~f_k, F_f, Frictional force/ *Wrywingskrag*~~
	W	F_g, weight, gravitational force / *gewig / gravitasiekrag*

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Mark awarded for arrow and label/ *Punt toegeken vir pyltjie en benoeming*
Do not penalise for length of arrows since drawing is not drawn to scale,
Moenie penaliseer vir die lengte van die pyltjies nie, die tekening is nie volgens skaal geteken nie.
~~Any other additional force(s)/ *Enige addisionele kragte* ⅔~~
If force(s) do not make contact with body/ *As kragte nie kontak maak met liggaam* Max/*Maks* ⅔ (2)

5.6 The net work done on an object is equal to the change in kinetic energy of the object. ✓✓
Die netto arbeid verrig op 'n voorwerp is gelyk aan die verandering in kinetiese energie van die voorwerp. (2)

5.7 **OPTION 1/ *OPSIE 1***
$W_{net} = \Delta E_k$
$W_f = ½ mv_f^2 - ½ mv_i^2$ } Any one/ *Enige een* ✓
$F_g \Delta x \cos\theta = ½ mv_f^2 - ½ mv_i^2$
$\underline{3 \times 9{,}8 \sin 20^o}$ ✓ $\underline{d \cos 180^o}$ ✓ $= ½ \times 3 \times 0^2 - \underline{½ \times 3 \times 3^2}$ ✓
d = 1,34 m ✓

OPTION 2 / *OPSIE 2*
$W_{nc} = \Delta E_p + \Delta E_k$
$W_{nc} = mgh_f - mgh_i + ½ mv_f^2 - ½ mv_i^2$ } Any one/ *Enige een* ✓
$\underline{0 = 3 \times 9{,}8}$ ✓ $\underline{d \cos 20^o}$ - 0 ✓+ 0 + ½ x 3 x 0^2 $\underline{- ½ \times 3 \times 3^2}$ ✓
d = 1,34 m ✓

OPTION 3 /*OPSIE 3*
$(E_p + E_K)_i = (E_p + E_k)_f$
$(mgh + ½mv^2)_i = (mgh + ½mv^2)_f$ } Any one/ *Enige een* ✓
0 + $\underline{½ \times 3 \times 3^2}$ ✓= [3 x 9,8 $\underline{\times d \sin 20^o}$ ✓+ 0] ✓
d = 1,34 m ✓

$W_{net} = \Delta E_k$ ✓
$F_g \Delta x \cos\theta = ½ mv_f^2 - ½ mv_i^2$ } Any one/ *Enige een* ✓
$\underline{3 \times 9{,}8 \Delta x \cos 110^o}$ ✓= $\underline{(½ \times 3 \times 0^2) - (½ \times 3 \times 3^2)}$ ✓
$\underline{\Delta x = 1{,}34 \text{ m}}$✓

(5)
[17]

QUESTION/*VRAAG 6*

6.1 $m = 200 \times 1000$
$m = 2 \times 10^5$ kg ✓ (1)

6.2 Positive marking from Q 6.1

OPTION 1 / *OPSIE 1*
$(E_p + E_K)_i = (E_p + E_k)_f$
$(mgh + ½mv^2)_i = (E_p + E_k)_f$
Any one/ *Enige een* ✓

$2 \times 10^5 \times 9,8 \times 150 + 0$ ✓ $= 0 + E_{kf}$ ✓
$2,94 \times 10^8$ J ✓

OPTION 2 / *OPSIE 2*
$W_{net} = \Delta E_k$
$F\cos\theta\Delta y = Ekf - Eki$
Any one/ *Enige een* ✓

$(200\ 000)(9,8)(\cos 0^o)(150)$ ✓ $= Ekf - 0$ ✓
$Ekf = 2,94 \times 10^8$ J ✓ (4)

6.3 Positive marking from Q 6.1 and Q 6.2

$E_k = ½mv^2$ ✓
$2,94 \times 10^8 = ½ \times 2 \times 10^5 v^2$ ✓
$v = 54,22\ m.s^{-1}$ ✓ (3)

$v_f^2 = v_i^2 + 2a\Delta y$ ✓
$v_f^2 = 0^2 + 2(9,8)(150)$ ✓
$v_f = 54,22\ m.s^{-1}$ ✓

[8]

QUESTION/*VRAAG 7*

7.1 The change in frequency observed by a listener because the listener and source of sound have different velocities relative to the medium of sound propagation. ✓✓
Die verandering in frekwensie (of toonhoogte) van die klank waargeneem deur 'n luisteraar omdat die klankbron en die luisteraar verskillende snelhede relatief tot die medium waarin die klank voortgeplant, het.

The change in frequency observed by a listener due to relative motion between the sound source and the listener. ✓✓
Die verandering in frekwensie wat deur 'n luisteraar waargeneem word as gevolg van relatiewe beweging tussen die klankbron en die luisteraar. (2)

7.2 Towards, ✓ Frequency detected by observer is higher than the source frequency. ✓
Na. Die frekwensie wat deur die luisteraar waargeneem word is hoër as die frekwensie van die bron. (2)

7.3 f_s = 780 Hz ✓✓ (2)

7.4 7.4.1 $f_L = \frac{v \pm v_L}{v \pm v_s} f_s$ ✓

$791{,}47$ ✓ $= \frac{v+5}{v}$ ✓ x 780 ✓

v = **340,02** m.s^{-1} ✓ 340,02 m.s^{-1} (5)
Any points can be used

7.4.2 v = fλ ✓
340,02 = 780 x λ ✓
λ = 0,44 m ✓ (3)

7.5 Measure the heart-beat of foetus in the womb./ *Meet die hartklop van die fetus in die baarmoeder* ✓
Measure the rate of blood flow / *Meet die tempo van bloedvloei* ✓ (2)

7.6 The star is moving away, ✓ the spectral lines show a decrease in frequency. ✓
OR the spectral lines show an increase in wavelength.

*Die ster beweeg weg, die spektrallyne toon 'n afname in frekwensie **OF** die spektrallyne toon 'n toename in golflengte.* (2)
[18]

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QUESTION/*VRAAG 8*

8.1 The magnitude of the electrostatic force exerted by one point charge (Q1) on another point charge (Q2) is directly proportional to the product of the magnitudes of the charges and inversely proportional to the square of the distance (r) between them. ✓✓
Die grootte van die elektrostatiese krag wat een puntlading (Q_1) op 'n ander puntlading (Q_2) uitoefen. Is direk eweredig aan die produk van die groottes van die ladings en omgekeerd eweredig aan die kwadraat van die afstand (r) tussen hulle. (2)
NOTE: if masses then 0/2

8.2 8.2.1 $n = \frac{Q}{q_e}$ ✓

$n = \frac{-6 \times 10^{-6}}{-1,6 \times 10^{-19}}$ ✓

$n = 3,75 \times 10^{13}$ ✓electrons/*elektrone* (3)

8.2.2 $F = \frac{kQ_1Q_2}{r^2}$ ✓

$F = \frac{9 \times 10^{9} \times 4 \times 10^{-6} \times 6 \times 10^{-6}}{0,4^2}$ ✓✓

F = 1,35 N ✓ (4)

8.2.3 $E = \frac{kQ}{r^2}$ ✓

$E_1 = \frac{9 \times 10^{9} \times 4 \times 10^{-6}}{0,6^2}$ ✓= 1 x 10^5 N.C^{-1} right / *regs*

$E_2 = \frac{9 \times 10^{9} \times 6 \times 10^{-6}}{0,2^2}$ ✓= 1,35 x 10^6 N.C^{-1} left / *links*

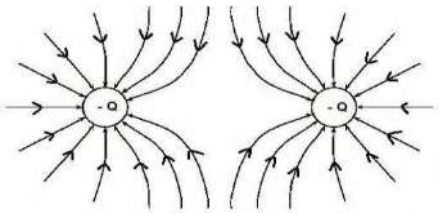
E_{net} = 1 x 10^5 - 1,35 x 10^6 ✓

E_{net} = -1,25 x 10^6

E_{net} = 1,25 x 10^6 N.C^{-1} left/ *links* ✓ (6)

8.3 8.3.1 A region of space in which an electric charge experiences a force. ✓✓
Dit is 'n gebied in die ruimte waarin 'n elektriese lading 'n krag ondervind. (2)

8.3.2



Criteria for marking/*Nasienkriteria*	
Correct shape / *Korrekte vorm*	✓
Direction of field lines/ *Rigting van veldlyne*	✓
Field lines not starting from the same point and do not enter the sphere *Veldlyne begin nie by dieselfde punte nie.*	✓

(3)

[20]

TOTAL/*TOTAAL :* 147

CONVERSION Table See next page

Physical Sciences P1 Conversion Table June 2026

Conversion Table: 147Marks → 150 Marks

The formula used is:
Converted Marks = (Original Marks ÷ 147) × 150

Mark Obtained (out of 147)	Mark to be added to convert to out of 150
0-10	0
11-58	1
59 -106	2
107-147	3

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