



education

Department of
Education
FREE STATE PROVINCE

PRACTICAL TASK / *PRAKTIESE TAAK*

GRADE 11 / *GRAAD 11*

**PHYSICAL SCIENCES
*FISIESE WETENSKAPPE***

MEMORANDUM

MARCH 2018 / *MAART 2018*

MARKS: 15 / *PUNTE: 15*

TIME: 30 MINUTES / *TYD: 30 MINUTE*

This memorandum consists of **THREE** pages.
Hierdie memorandum bestaan uit **DRIE** bladsye.

QUESTION 1 / VRAAG 1

1.1 To compensate for friction. ✓ Om vir wrywing te kompenseer. ✓ (1)

1.2 Independent: Net force ✓ Onafhanklik: Netto krag ✓

Dependent: Acceleration ✓ Afhanklik: Versnelling ✓

Controlled: Mass ✓ Gekontroleerd: Massa ✓ (3)

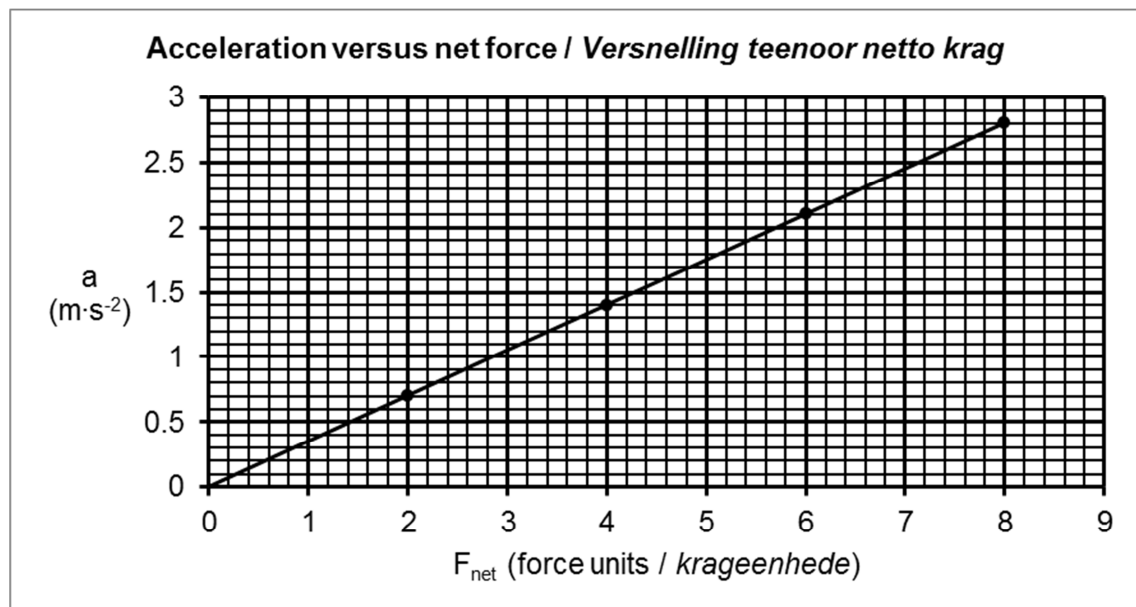
1.3

$$\begin{aligned} T &= \frac{1}{f} \quad \checkmark \\ &= \frac{1}{40} \quad \checkmark \\ &= 0,025 \text{ s} \quad \checkmark \end{aligned}$$

(2)

1.4.1 2,86 ✓ (1)

1.4.2



Heading and axes labelled correctly. <i>Opskrif en asse korrek benoem.</i>	✓
Suitable divisions on axes. <i>Geskikte indelings op asse.</i>	✓
Two points plotted correctly. <i>Twee punte korrek geplot.</i>	✓
Four points plotted correctly. <i>Vier punte korrek geplot.</i>	✓
Best-fit line draw.n <i>Bes-passend lyn getrek.</i>	✓

(5)

1.5 Acceleration is directly proportional to net force OR $a \propto F_{net}$. ✓

Versnelling is direk eweredig aan netto krag OF $a \propto F_{net}$. ✓ (1)

1.6

Units of/Eenhede van:

$$\left. \begin{aligned} \frac{F_{net}}{a} &= \frac{N}{m \cdot s^{-2}} \\ &= \frac{kg \cdot m \cdot s^{-2}}{m \cdot s^{-2}} \\ &= kg \end{aligned} \right\} \checkmark$$

(2)

GRAND TOTAL / GROOTTOTAAL: 15