



**education**

Department of  
Education  
FREE STATE PROVINCE

**PRACTICAL TASK / PRAKTIESE TAAK**

**GRADE 11 / GRAAD 11**

**PHYSICAL SCIENCES  
FISIESE WETENSKAPPE**

**MEMORANDUM**

**JUNE 2018 / JUNIE 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 Marking criteria/Nasienriglyne

- Must be a question; including the ?/Moet 'n vraag wees; ? ingesluit. ✓
- A relationship between correct variables must be given./'n Verwantskap tussen die korrekte veranderlikes moet gegee word. ✓

#### Example/Voorbeeld

What is the relationship between pressure and volume (of an enclosed gas)?

*Wat is die verwantskap tussen druk en volume (van 'n ingeslote gas)?* (2)

### 1.2 X: One of: ✓

Enclosed gas  
Gas/Air  
Glass tube

### Een van: ✓

Ingeslote gas  
Gas/Lug  
Glasbuis

### Y: One of: ✓

Bourdon pressure gauge  
Pressure gauge

### Een van: ✓

Bourdon drukmeter  
Drukmeter

### Z: One of: ✓

Oil container/reservoir  
Oil

### Een van: ✓

Oliehouer/-reservoir  
Olie

(3)

### 1.3 1;5;3; 6;2;4

✓ ✓

(2)

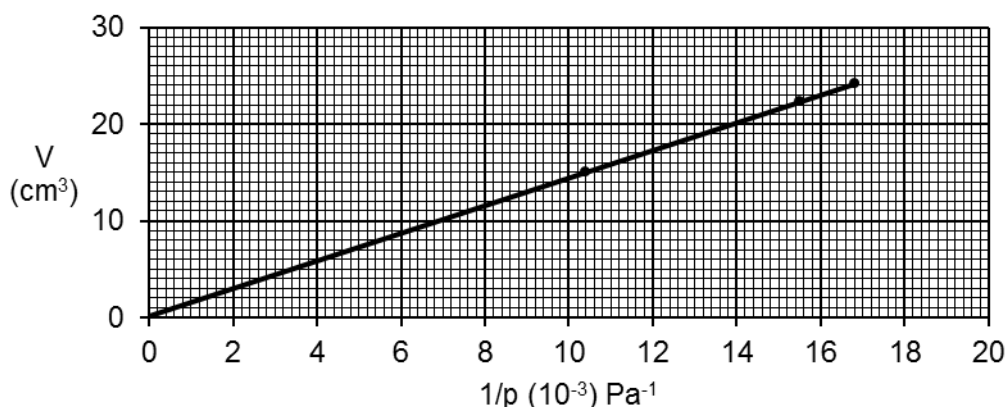
### 1.4 Increase ✓

Neem toe ✓

(1)

### 1.5.1

Graph of V versus 1/p  
Grafiek van V teenoor 1/p



(3)

#### Marking criteria / Nasienriglyne

- Division (i.e. all numbers can fit and spacing is regular) of both axes is correct./Indeling (d.i. alle getalle pas in en spasiëring is reëlmatig) op beide asse is korrek. ✓
- Points are plotted correctly./Punte is korrek gestip. ✓ **[This mark is forfeited if division mark is lost./Hierdie punt word verbeur as indelingspunt verloor is.]**
- Best-fit straight line is drawn correctly from plotted points, even if mark for plotting is lost. Bes-passende reguitlyn is korrek getrek vanaf gestipte punte, selfs as punt vir stip verloor is. ✓

- 1.5.2 S: 96,2 (96,15)  
T: 14,0 (14 or/of 14,01)  
Q: 1 438 (1438,35)

**Marking criteria / Nasienriglyne**

- Anyone of the numbers correct/*Enigeen van die getalle korrek* ✓
- 2nd and 3rd numbers also correct/*2e en 3e getalle ook korrek* ✓

(2)

**Typing error:** Q1.6 does not exist.

**Tikfout:** V1.6 bestaan nie.

- 1.6 Temperature/*Temperatuur* ✓

Accept: Number of moles of gas/mass of gas

*Aanvaar: Aantal mol gas/massa gas*

(1)

- 1.7 Pressure is inversely proportional to volume (at constant temperature). ✓  
OR Volume is inversely proportional to pressure (at constant temperature).  
OR  $p \propto 1/p$  (at constant temperature)

*Druk is omgekeerd eweredig aan volume (by konstante temperatuur).*

*OF Volume is omgekeerd eweredig aan druk (by konstante temperatuur).*

*OF  $p \propto 1/p$  (by konstante temperatuur)*

(1)

**[15]**