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**PHYSICS**

**PAPER 3**

**JULY/AUGUST 2019**

**BUURI EAST STANDARDS**

***Kenya Certificate of Secondary Education***

**MARKING SCHEME**

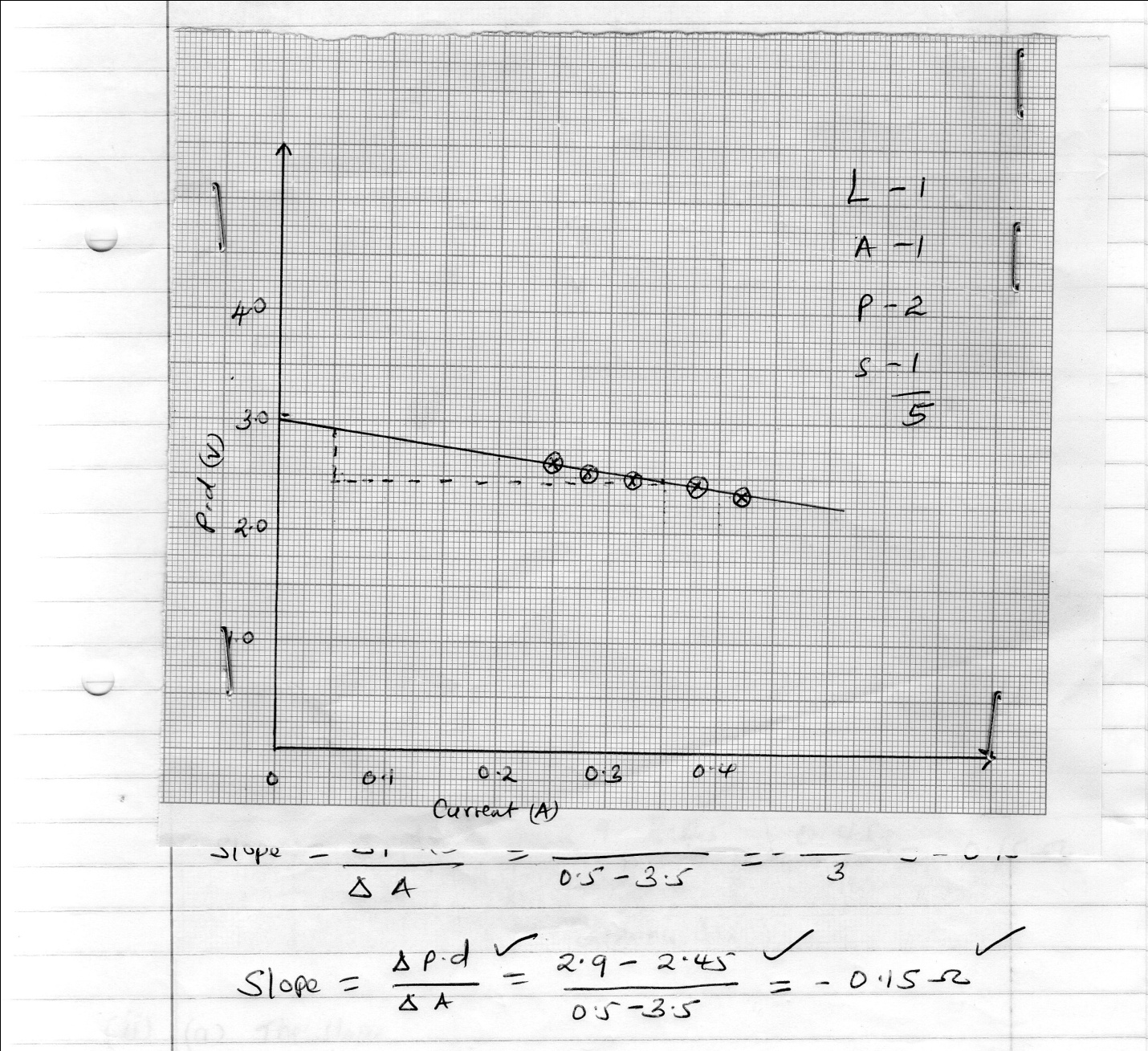
1. a) d= 0.045 m ± 0.003

ii)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Length (cm) | 80 | 70 | 60 | 50 | 40 |  |
| p.d (v) | 2.65 | 2.55 | 2.50 | 2.45 | 2.35 | ±0.2 |
| Current (a) | 0.25 | 0.28 | 0.32 | 0.38 | 0.42 | ±0.02 |

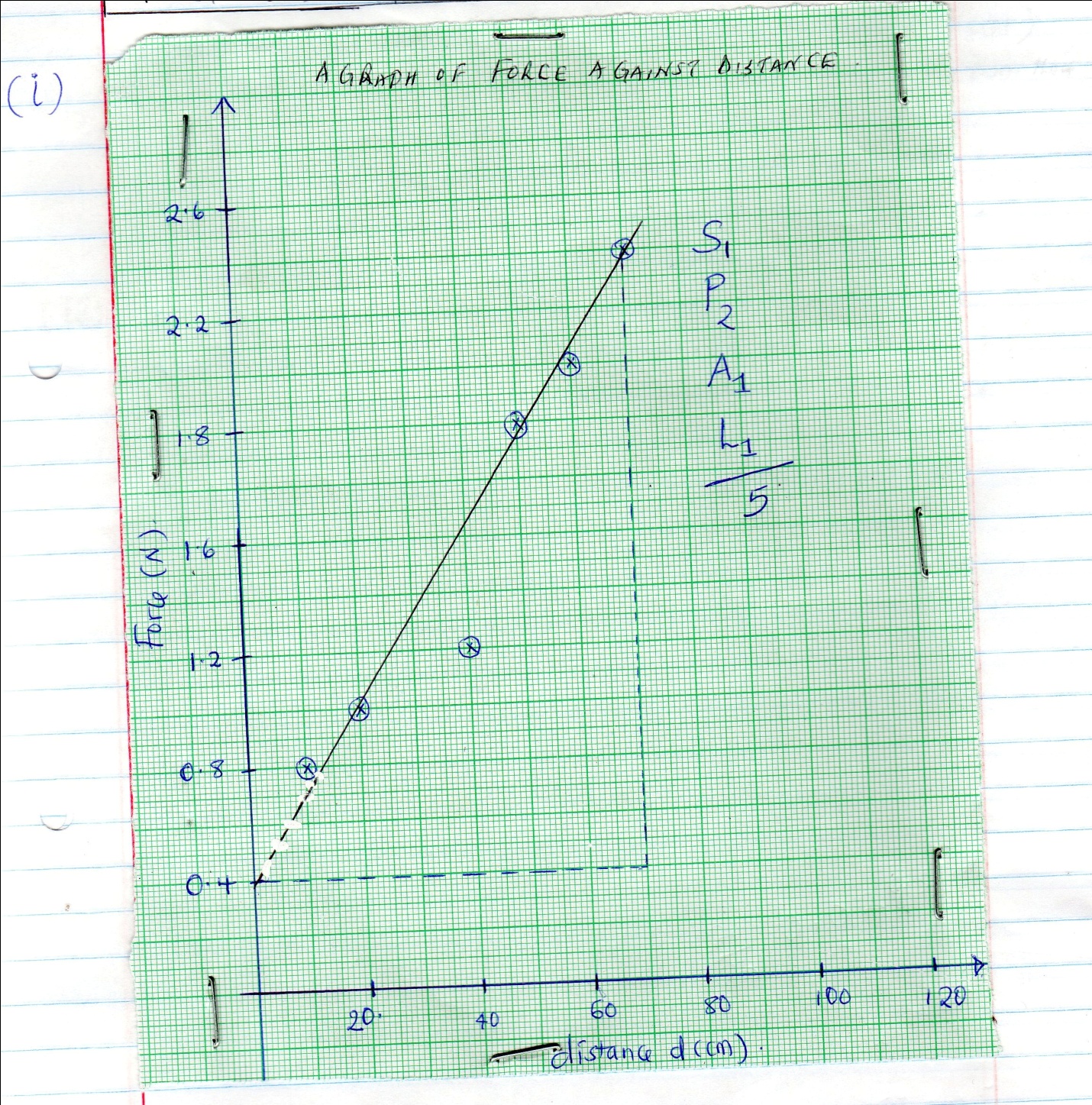
Slope = p.d (v)√ = 2.9 – 2.45√ = 0.45 = -0.15Ω

0.5 – 3.5 -3



2. a)

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Distance (cm) | 10 | 20 | 30 | 40 | 50 | 60 | 70 |
| Force (N) | 0.8 | 1.0 | 1.2 | 1.2 | 1.8 | 2.0 | 2.4 ±0.01 |



ii) The slope

(0, 0.4) (70, 2.4)

= 2.0

70 x 10-2

= 2.857 N/cm

Or 2.857 x 10-2 N/M

b) When d = 0 , Force = 0.4N i.e the y – intercept

(1mk for identify it’s a value for y – intercept)

(1mk for correct reading from the graph)

Iii) Comparing y=mx+c with F = 2md +40k

Then gradient = 2m

2.857 = 2m

2.857= m

2

Y= intercept = 40k

= 0.4 = 40k√

40 40

= 0.04

40

* 1. N√

2. Table (b)

|  |  |  |  |
| --- | --- | --- | --- |
| U (cm) | 40.0 | 45.0 | 50.0 |
| V (cm) | 41.0 | 36.0 | 34.0 |
| Magnification m=v/u | 1.025 | 0.8 | 0.68 |

F= v

M+1

f1 =41= 20.25 cm f2 = 36 = 20.0cm√ f3 =34= 20.24 cm√

2.025 1.8 1.68

F = 20.25 +20.0 +20.24 60.49 =20.16 cm√

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