

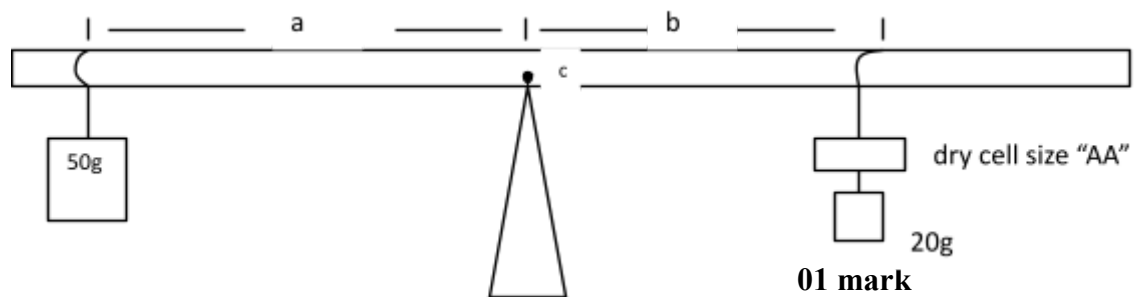
LINDI MUNICIPAL COUNCIL

FORM FOUR UMEKTA EXAMINATION – JULY 2023

PHYSICS 2A – MARKING SCHEME

CODE NO.031/2A

1. b)



01 mark

(c.) $a = 5\text{cm}$, $b = 6.6\text{cm}$

01 mark

(d) Table of Results

a(cm)	b(cm)
5	6.6
10	13.3
15	19.9
20	26.6
25	33.3

10 marks

(e) (i) Point from the graph (30, 22.5) and (10, 7.5)

01 mark

$$\text{Slope} = \frac{\Delta a}{\Delta b}$$

$$= \frac{7.5 - 22.5}{10 - 30} = \frac{-15}{-20} = 0.75$$

01 mark

$$\text{Slope} = 0.75$$

$$G = \frac{20 + X}{50}$$

(f) From

$$50G = (X + 20)$$

01

mark

finding the value of X, but $G = \text{slope} = 0.75$

$$20 + X = 50 \times 0.75$$

$$20 + X = 37.5$$

01 mark

$$X = 37.5 - 20$$

$$X = 17.5\text{g}$$

01 mark

(g) The value of X in (e) above represent the mass of dry cell size AA which is 17.5g **01 mark**

(h) “Principle governing this experiment states that “For a system to be in rotational balance, the total clockwise moment must be equal to the total anticlockwise moment”

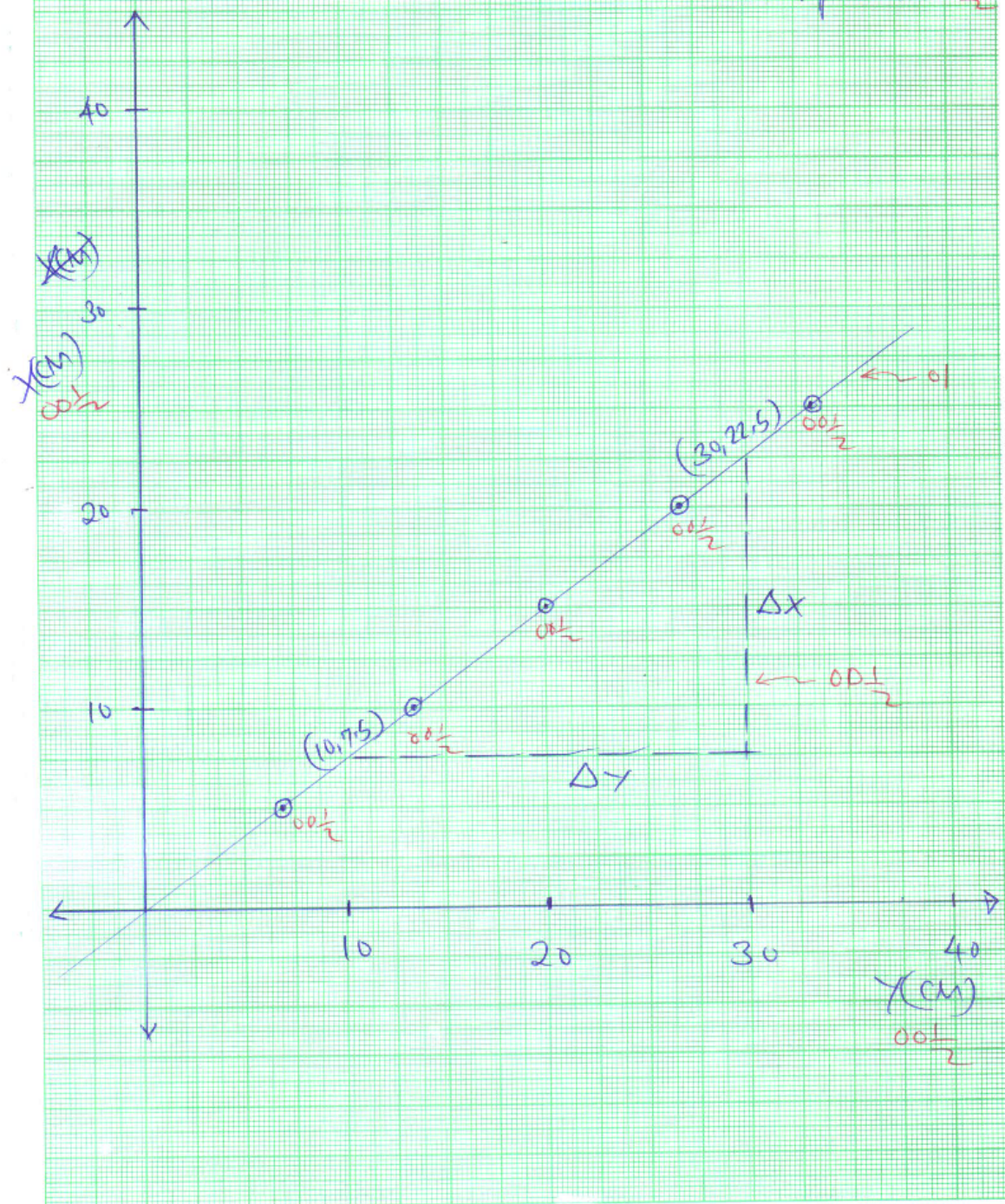
01 mark

1. e The graph of $X(\text{cm})$ against $x(\text{cm})$ o.1

Scale

H.S: 1cm represent 0.01

V.S: 1cm represent 0.01



(1cm x 1cm) squares of (10mm x 10mm)

2. e) Table of results

α^0	β^0
10	20
15	30
20	40
25	50
30	60

10 marks

(g)

$$Slope = \frac{\Delta\beta^0}{\Delta\alpha^0}$$

01 mark

$$= \frac{55-15}{27.5-7.5}$$

1.5 mark

$$= \frac{40}{20}$$

$$Slope = 2$$

01 mark

$$(h) \text{ Reciprocal of slope} = \frac{1}{2 \cdot 2} = 0.5$$

02 marks

(i) Relation between α^0 and β^0 is $2\alpha = \beta$
or

$$\frac{1}{2}\beta = \alpha$$

02 marks

2(f) The graph of β° against α° 01 marks

