

# ASUMBI GIRLS HIGH SCHOOL

## POST -MOCK 1

### AUGUST/SEPTEMBER

2022

232/3

#### PHYSICS PP3 MS

#### QUESTION 1 PART A

d)

D (cm)	Time for 20 oscillations (S)	Periodic time (T) (S)	T <sup>2</sup> (S <sup>2</sup> )
15	94.00	4.70	22.09
20	70.91	3.65	12.60
25	60.60	3.03	9.18
30	53.43	2.67	7.13
35	47.87	2.40	5.76
40	44.62	2.23	4.87

½ each

1mk for all ct

1mk for all correct

e) See graph attached.

P2

L1 A1

S1

f)

$$\text{Slope} = \frac{\Delta P}{\Delta T^2} = \frac{35.0 - 14}{3.5 - 14.7} = -1.875 \text{ cm/s}^2$$

g) 33cm → 6.25 (S<sup>2</sup>)

$$T = 6.25$$

$$= 2.5 \text{ S}$$

#### PART B

	Time for 10 rev	T
1.	5.92	0.592
2.	6.10	0.610

3. 

5.87	0.587
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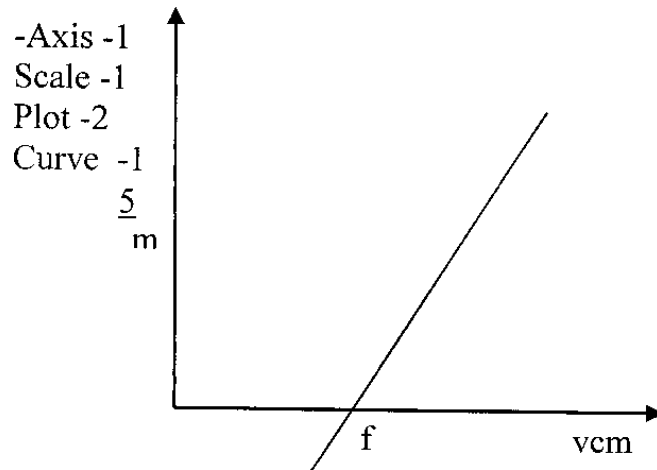
$$T_{\text{Ave}} = 0.596\text{S}$$

$$W = \frac{2\pi}{T} = 10.543 \text{ rad S}^{-1}$$

2.  $F = 20 \pm 0.1$ .

e)

U (cm)	30	35	40	45	50	55
V(cm)	58	47.0	42.0	46	34.5	32.5
$M = \frac{v}{u}$	1.93	1.34	1.05	1.02	0.69	0.59



g) Slope =  $\frac{1}{f}$

h) Use the x intercept

When  $M = 0$ ,  $v = f$ .

Or reciprocal of slope =  $f$ .

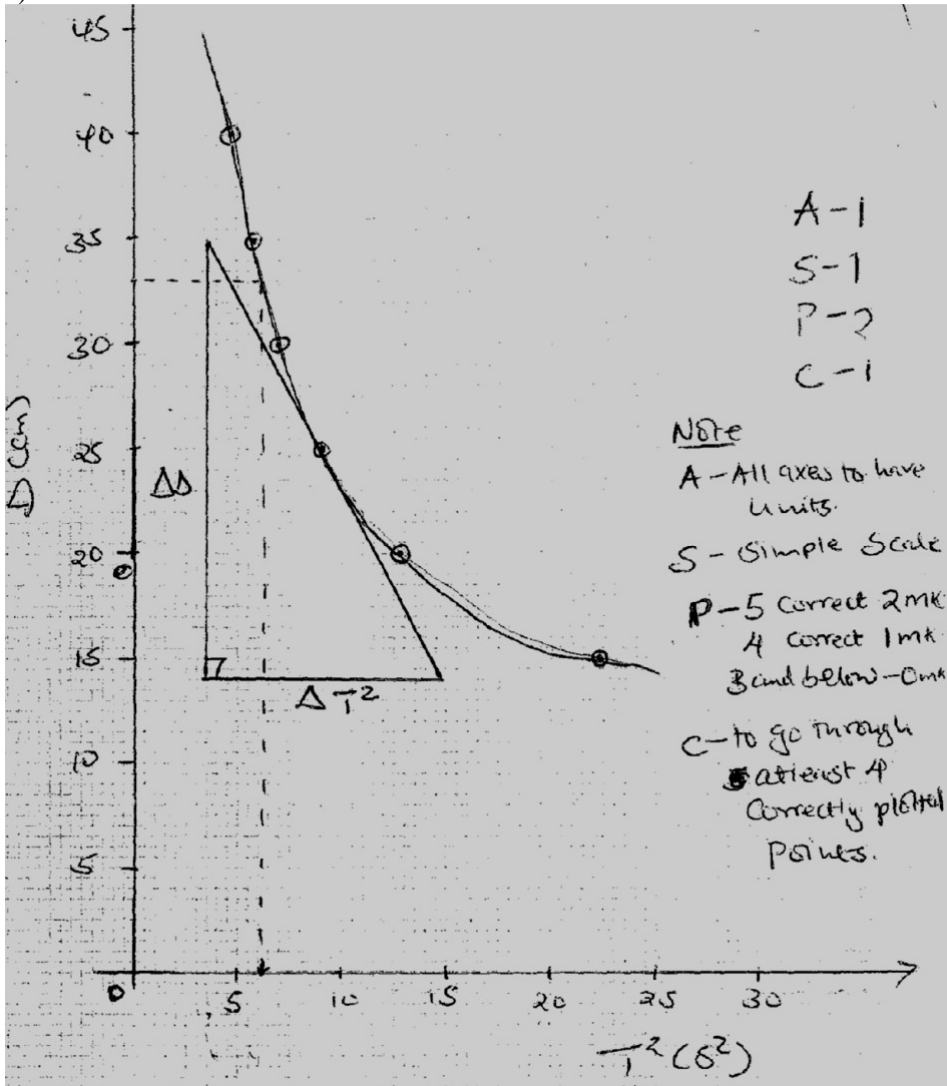
### PART B

(a) (i) Ammeter,  $I = 0.25$  A

(ii) Voltmeter,  $V = 1.35$  V

(iii)  $K = \frac{v}{i} \Rightarrow K = \frac{1.35}{0.25} = 5.4 \Omega$

d)



e)

