

Using Least Square Regression Method to get the value of '9/v2' from the data obtained from the simulation where a= rise and v2: nun.

 $5um(x) = 5um(v^2) = 1955161 \cdot 83052365$ $5um(y) = 5um(a) = -351889 \cdot 4364$ $5um(xxy) = 5um(v^2xa) = -4179116163 \cdot 37065$ $5um(x^2) = 5um(v^4) = 23503302773 \cdot 0809$ $(5um(x))^2 = (5um(v^2))^2 = 3822657783536 \cdot 57$ N = 293

m = 5lope = NE(xy) - ExEy

NE(x2) - (Ex)2

b: intercept = Zy-EmZx

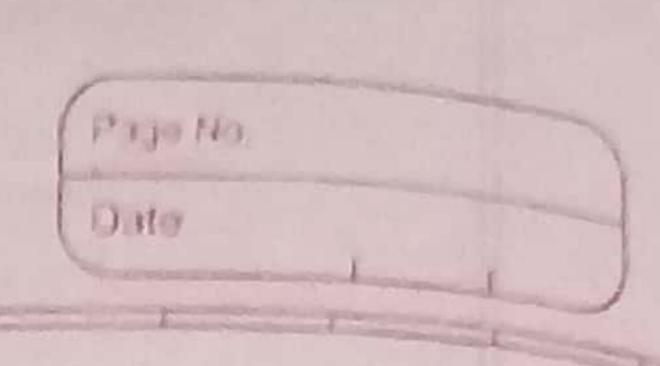
:.m=-536480241253-842 = -0.175102324781982 3063509928976.14

·. b = -32.5462612638706

·· 9 = m: -0.175102324781982

Surface Area of rocket: TTr2 + Fin Area X6

7 = 3.81 cm



Fin Area = 0.3 × 11.4 = 3.42 cm²

 $-3.5 \cdot A \cdot = TT \times (3.81 \times 3.81) + (0.3 \times 11.4 \times 3)$ $= 55.8636731 \times 10^{-4} \text{ m}^2$

3468.3068-19163P1 = 1, "Works, = (x) mus

Moss of Rocket = 1394 gram = 1.394 Kg

Standard value of air density, 3=1.225 kg/m3

:. Cd = -71.3377003

: Fd = 1 8 V2 Cd 5. A.

= 1 × 1·225 × (Vmax) 2 × (-71·3377003) × 55·86 2 731 ×

Since, Vmax = 24.114 m/s from simulation

FB = -141.936208 N

: Total Drag force in Downward Direction is
141.936208 N. in Downward

PICATIBE FFOR EBOR

i. Coefficient of Wrag in Down ward Direction is