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Mathematics 9709/42

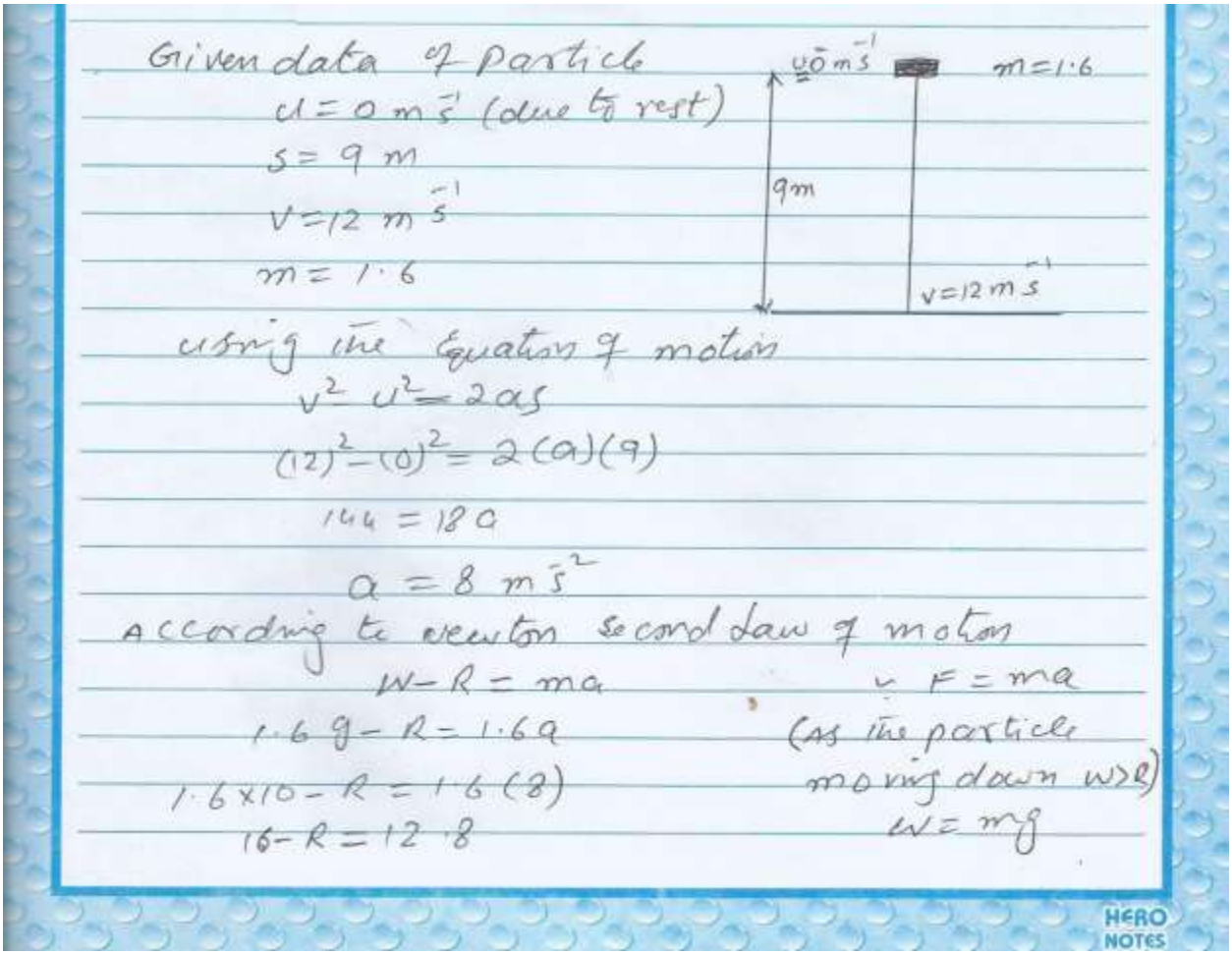
Paper 4 Mechanics May/June 2023

Question No (1)

1 A particle of mass 1.6 kg is dropped from a height of 9 m above horizontal ground. The speed of the particle at the instant before hitting the ground is $12\,\text{m s}^{-1}$.

Find the work done against air resistance.

Solution:



$R = 16 - 12.8$

$R = 3.2$

work done against air resistance = Force x distance

$W.D = R \times d$

$= 3.2 \times 9$

$\boxed{WD = 28.8\ J}$