

- 1 (a) Distinguish between random error and systematic error in a set of measurements
) of a physical quantity.

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[2

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- (b) The power P required by a car to overcome the drag force acting on it when it is
) travelling at a speed v in turbulent condition is given by the equation

$$P = k\rho A^p v^q$$

where A is the frontal area of the car and ρ is the density of the air.

Given that k is a quantity with no units, determine the values of p and q .

p =

q = [3
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[Total: 5]

