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الملف Physics about Dimension and Resolving Vector

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A. DIMENSION

1. Find the dimensions and units of each of the following quantities:

Use common font effect : eg L^2 to be L2, $m s^{-1}$ to be ms-1

	Dimensions	SI Units
(a) Area	L^2	
(b) Velocity		$m s^{-1}$
(c) Force		
(d) Pressure		
(e) Frequency		
(f) Linear Momentum		

2. A professor puts 2 equations on the board $v = v_0 + at$ and $x = \frac{v}{2a}$ (where x is a distance, v and v_0 are velocities, a is acceleration and t is time). Are the equations dimensionally correct ?

Use common font effect : eg L^2 to be L2, $m s^{-1}$ to be ms-1

	LHS Dimension	RHS Dimension	Conclusion (state homogen/NOT Homogen)
$v = v_0 + at$			
$x = \frac{v}{2a}$			

3. An expression which shows how critical velocity v of liquid which flows through a narrow tube depends on coefficient of viscosity, Z of liquid, radius r

of the tube and density of liquid, D is given by $v = k Z^x r^y D^z$ (unit of Z is $kg m^{-1} s^{-1}$).

Determine x,y,z and write down the equation.

Use common font effect : eg L^2 to be L2, $m s^{-1}$ to be ms-1

x	y	z	Equation

B. RESOLVING VECTOR (ADDITIONAL VECTOR)

Use common font effect : eg L^2 to be L^2 , $m\ s^{-1}$ to be ms^{-1}

	Sum of x-component (2 decimal places)	Sum of y-component (2 decimal places)
		
		
		
		
		