

$$v^2 - u^2 = 2as \quad v^2 - u^2 = 2as$$

- Distance travelled in n^{th} second of uniformly accelerated motion is given by the relation,

$$D_n = u + \frac{a}{2}(2n-1)$$

Galileo's law of odd number

- The ratios of the distance covered by a body falling from the rest increase by odd numbers from one second to the next. That means, distances covered by each will increase by factors of 1, 3, 5, 7, ...

Relative Velocity

- The relative velocity of a body **A** with respect to another body **B** is the time rate at which **A** changes its position with respect to **B**.
- Case 1: Both bodies move in the same direction:** If **A** and **B** are moving in the same direction, then the resultant relative velocity is $v_{AB} = v_A - v_B$
- Case 2: The bodies move in opposite directions:** If **A** and **B** are moving in the opposite directions, then the resultant relative velocity is $v_{AB} = v_A + v_B$

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