

NEW STANDARD ACADEMY

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PHYSICS

- A particle was at rest from 1 a.m. It moved at a uniform speed 40km/hr from 1.30 a.m. to 2:00 a.m. Find the average speed between
 - 1.00 a.m. and 2.00 a.m.
 - 1.15 a.m. and 2.00 a.m.
 - 1.30 a.m. and 2.00 a.m
- An object moves along a circular path of diameter 16cm with constant speed. If it takes 4 min. to move from a point on the path to the diametrically opposite point. Find
 - The distance covered by the object
 - The speed (c) The displacement
 - average velocity.
- A particle with a velocity of 5m/s at $t=0$ moves along a straight line with a constant acceleration of 0.2m/s^2 . Find the displacement of the particle in 15s?

A particle is pushed along a horizontal surface in such a way that it starts with a velocity of 15m/s. Its velocity decreases at a uniform rate of 0.5m/s^2 .

 - Find the time it will take to come to rest.
 - Find the distance covered by it before coming to rest?
- A train accelerated from 30km/hr to 80km/hr in 5 minutes. How much distance does it cover in this period? Assume that the tracks are straight?
- A cyclist moving on a circular track of radius 100m completes one revolution in 8 minutes. What is his
 - average speed
 - average velocity in one full revolution

CHEMISTRY

- In a reaction 5.3 g of sodium carbonate reacted with 6g of ethanoic acid. The products were 2.2g of carbon dioxide 0.9 g of water and 8.2 g of sodium ethanoate. Show that these observation are in agreement with the law of conservation of mass.
- When 3.0 g of carbon is burnt in 8.0g of oxygen , 11.0g of carbon dioxide is produced. What mass of carbon of dioxide will be formed when 3.0 g of carbon is burnt in 50.0 of oxygen ? which law of chemical combination will govern your answer
- Which postulate of dalton's atomic theory is the result of the law of conservation of mass?

- Which postulate of Dalton's atomic theory can explain the law of definite proportions?
- Calcium carbonate(CaCO_3) decomposes to give CaO and CO_2 . If 100 grams of CaCO_3 are allowed to decompose ,44 grams of CO_2 is formed. If law of law of conservation of mass is true calculate the mass of CaO formed

BIOLOGY

- Draw the label diagram of plasma membrane which is the given by Singer and Nicolson
- What is the difference between plant cell and animal cell
- Give the difference between prokaryotic and eukaryotic cell
- what is a cell division Explain it
- Give the function of mitochondria and chloroplast

MATH

- Write the linear equation such that each point on its graph has ordinate 3 times its abscissa.
- Find the value of k, if $x = 1$, $y = 1$ is a solution of $9kx + 11ky = 20$.
- The cost of book (x) exceeds twice the cost of pen (y) by 10 rupees. Express this statement as linear equation.
- If the point (3,2) lies on the graph of the equation $3y = ax + 5$, find the value of a.
- The cost of a plate is four times the cost of a cup . Write a linear equation in two variables to represent the statement.
- Determine the point on the graph of the equation $5x + y = 27$ whose x-coordinate is $\frac{5}{2}$ times its ordinate.
- Given the point $(\frac{1}{2}, \frac{3}{2})$, find two equation $2x + 3y = 16$, whose y- coordinate is 2 times its abscissa.
- Draw the graph of the linear equation $2x + 3y = 6$. Find out the coordinates of the points where the line intersects x – axis and y- axis.
- Find the points where the graph of the equation $2x = 1 - 5y$ cuts the x – axis and y- axis.
- If $(m-2, 2m+1)$ lies on equation $2x + 3y - 10 = 0$, find m.