



CLASS – IX

WINTER BREAK

HOMEWORK

Name:

Date:

This is to bring to your kind notice that the school will reopen on Monday, 12th January 2015.

MATHEMATICS:

Q1. Choose the correct option:

(a) The radius of the sphere is $2r$, then its volume will be:

(i) $\frac{4}{3} \pi r^3$ (ii) $4 \pi r^3$ (iii) $\frac{8}{3} \pi r^3$ (iv) $\frac{32}{3} \pi r^3$

(b) In a cylinder radius is doubled and height is halved, curved surface area will be:

(i) halved (ii) doubled (iii) same (iv) four times

(c) The radii of two cylinders are in the ratio of 2:3 and their heights are in the ratio of 5:3.

The ratio of their volumes is:

(i) 10:17 (ii) 20:27 (iii) 17:27 (iv) 20:27

(d) The length of the longest pole that can be put in a room of dimensions

(10m x 10m x 5m) is:

(i) 15m (ii) 16m (iii) 10m (iv) 12m

(e) If the total surface area of a cylinder of radius 14 cm is 1848 cm^2 then its curved surface area is _____.

a) 616 cm^2

b) 648 cm^2

c) 608 cm^2

d) 624 cm^2

(f) If the length of a cuboid is L , height is h and lateral surface area is A , then its

Breadth is _____.

a) $\frac{A-L}{2h}$

b) $2hA - L$

c) $\frac{A}{2h} - L$

d) $\frac{A}{2h} + L$



- Q2. State true or false. Justify your answer:
- (a) The volume of the largest right circular cone that can be fitted in a cube whose edge is $2r$ equals to the volume of a hemisphere of radius r .
 - (b) A cylinder and a right circular cone are having the same base and the same height. The volume of the cylinder is three times the volume of a cone.
 - (c) If the length of the diagonal of the cube is $6\sqrt{3}$ cm, then the length of the edge of the cube is 3cm.
 - (d) If the sphere is inscribed in a cube, then the ratio of the volume of the cube to the volume of the sphere will be $6:\pi$.
- Q3. How many square meters of canvas is required for a conical tent whose height is 3.5m and the radius of the base is 12m?
- Q4. A school provides milk to the students daily in cylindrical glasses each of diameter 7cm. If the glass is filled with milk upto an height of 12cm, find how many litres of milk is needed to serve 1600 students.
- Q5. A cylindrical roller 2.5m in length, 1.75m in radius when rolled on a road was found to cover the area of 5500m^2 . How many revolutions did it make?
- Q6. If the difference between the total surface area and the lateral surface area of a cube is 50 m^2 then find the length of edge of the cube.
- Q7. A cylindrical tube is opened at both the ends is made of iron sheet which is 2cm thick. If the outer diameter is 16cm and its length is 100cm, find how many cubic centimeters of iron has been used in making the tube.
- Q8. If the volumes and heights of two cylinders are in the ratios $4 : 5$ and $5 : 16$ Respectively, then find the ratio of their curved surface areas.
- Q9. If the lateral surface area and volume of a cuboid are 15 cm^2 and 75 cm^3 respectively, then find the sum of reciprocals of its length and breadth.



Q10. If the edge of a cube is a , then find the ratio between its total and lateral surface areas.

FRENCH :

Make a ppt or chart on Festivals of France

BIOLOGY :

Case study of patient suffering from any chronic disease(AIDS , CANCER , diabetes elephantiasis , dialysis)

PHYSICS :

1. Why are railway tracks laid on large sized concrete sleepers?
2. Why an egg sinks in fresh water but floats in highly salty water.
3. From a 20 m high fall nearly 25 metric tonnes of water fall per second. Calculate the equivalent power if all this energy is utilized.
4. An electric oven is rated 2500 W. How much units of energy does it use in 4 hours?
5. How much time will a pump of 1 kW power take to lift 500 litre of water to a height of 40 m?
6. Find the ratio of gravitational potential energy if height of an object is double and its mass tripled. Also find the ratio of work done by gravity in bringing the object to zero height in both cases.
7. A bullet of mass 10 g is fired from a rifle with a muzzle speed of 800m/s. After passing through a mud wall 1 m thick, the speed of bullet drops to 200m/s. Calculate the work done by mud wall on the bullet.
8. Find the total thrust acting on the bottom surface of a tank 4m long, 2m broad and 2 m deep when fully filled with water.
9. Why swimmers are provided with an inflated rubber jacket/tube. Why ?
10. A solid weighs 80 g in air and 64 g in water. Calculate the relative density of solid.



HINDI:

‘बाल मज़दूरी’ पर आधारित आकर्षक पोस्टर बनाइए।

ENGLISH:

Design a book cover and invent an interesting title for the novel ‘Three Men in a Boat’. Also write the character sketch of the main characters and a book review.

SANSKRIT:

‘भारतीय विज्ञानं’ पर एक प्रोजेक्ट तैयार करें

SOCIAL SCIENCE:

Collect information from the weather report section of any daily newspaper for a week and make a table stating the weather conditions for each particular day recording the minimum and maximum temperatures.

Wishing you and your family a very happy and prosperous new year

