

Dear Parent /Guardian

Hope everything is fine at your end and the same is herein with the school. First term of your ward completed smoothly with the co-operation of all associated with Wisewoods.

Academic & Advanced Exams are a part of curriculum which was conducted as per the calendar and marks SMS also were sent to your registered mobile numbers.

We are conducting Detailed Assessment Exam to your ward in the subjects English, Mathematics & Science. Reports of the test will be given to you at the earliest.

We are glad to inform you that our wisewoods students are going to take part in CBSE cluster games during the vacation.

As you are aware that the learning is endless and is a continuous process, so to keep intact with our young minds(i.e. your wards) my teachers have designed **productive works** in English, Mathematics, Science and Social Science which have to be completed by the students and submit to the concerned teacher on the re-opening day.

Many more new things are in the offing in future.

With Best Wishes.



SANJAY BHATIA

Principal

Vacation Work for Grade X

Note:

- Use only A4 sheet for writing information with neat borders separately for each subject.
- Each student must use atleast 5 to 6 A4 sheets apart from Index page and Conclusion page.

ENGLISH

Read the text book thoroughly (Unit – 1 to unit – 5) including poems and supplementary reader and answer the following questions.

Questions:

1. Compare and contrast the young seagull in the beginning and at the end of the story?
2. Comment up on the theme of the story “A letter to God.”
3. “The Diary of Anne Frank” is a work of an insightful mind of a young girl. Explain.
4. Our attitude towards a situation evokes both positive and negative response. Analyze this with reference to the poem “Dust of sow” to bring out the inherent valuable lessons.
5. Is Amanda attitude a typical teenager behavior? What is the lesson for parent from this poem?
 - Practice the “factual” passages (6 to 10) Assignments and 6 to 10 “Discursive” passages from ‘Full circle’ (volume – I) book.
 - Practice the grammar “6 to 10” assignments from Full circle book volume – I. (Page no. 147 to 155)

MATHEMATICS

PACE [Problems asked in CBSE exam]

Solve the problems:

1. Prove that one and only one out of n , $n + 2$, and $n + 4$ is divisible by ‘3’, where n is any positive integer.
2. Write whether $\frac{2\sqrt{45} + 3\sqrt{20}}{2\sqrt{5}}$ on simplification gives a rational or an irrational number.
3. The numbers 525 and 3000 are both divisible only by 3, 5, 15, 25 and 75. What is HCF of (525, 3000)? Justify your answer.
4. Can two numbers have 18 as their HCF and 380 as their LCM? Give reasons.
5. Show that the square of any positive integer cannot be of the form $6m + 2$ or $6m + 5$ for any integer m .
6. If two zeroes of the polynomial $x^4 - 6x^3 - 26x^2 + 138x - 35$ are $2 \pm \sqrt{3}$, find the other zeroes.
7. Find a cubic polynomial with the sum, sum of the product of its zeroes taken two at a time, and the product of its zeroes as 2, -7 , -14 respectively.
8. Given that $\sqrt{2}$ is a zero of the cubic polynomial $6x^3 + \sqrt{2}x^2 - 10x - 4\sqrt{2}$, find its other two zeroes.
9. Write the polynomial, the product and the sum of whose zeroes are $-\frac{9}{2}$ and $-\frac{3}{2}$ respectively.

10. If α and β are zeroes of the polynomial $2x^2 + 6x - 3$, then find the values of expressions given below:

(i) $\alpha^2 + \beta^2$ (ii) $\alpha^3 + \beta^3$ (iii) $\frac{1}{\alpha} + \frac{1}{\beta}$ (iv) $\frac{\alpha}{\beta} + \frac{\beta}{\alpha}$

(v) $\alpha^3\beta + \beta^3\alpha$ (vi) $(\alpha - \beta)^2$ (vii) $\frac{1}{\alpha^2} + \frac{1}{\beta^2}$ (viii) $\frac{\alpha^2}{\beta} + \frac{\beta^2}{\alpha}$

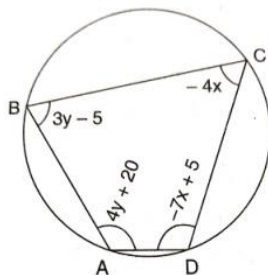
(ix) $\alpha^4 + \beta^4$ (x) $\left(\alpha + \frac{1}{\alpha}\right) + \left(\beta + \frac{1}{\beta}\right)$

11. Draw the graphs of the equations $x - y + 1 = 0$ and $3x + 2y - 12 = 0$. Determine the coordinates of the vertices of the triangle formed by these lines and the x - axis, and shade the triangular region.

12. One says, "Give me a hundred, friend! I shall then become twice as rich as you." The other replies, "If you give me ten, I shall be six times as rich as you." Tell me what is the amount of their (respective) capital? [Hint : $x + 100 = 2(y - 100)$, $y + 10 = 6(x - 10)$].

13. In a $\triangle ABC$, $\angle C = 3\angle B = 2(\angle A + \angle B)$. Find the three angles.

14. ABCD is a cyclic quadrilateral. Find the angles of the cyclic quadrilateral.



15. Solve : $99x + 101y = 499$
 $101x + 99y = 501$

16. Find a natural number whose square diminished by 84 is equal to thrice of 8 more than the given number.

17. A natural number, when increased by 12, equals 160 times its reciprocal. Find the number.

18. Find the number of integral value of x so that $2^{2x^2 - 7x + 5} = 1$.

19. Find the value of $\sqrt{6 + \sqrt{6 + \sqrt{6 + \dots}}}$.

20. If the roots of the quadratic equation $(a - b)x^2 + (b - c)x + c - a = 0$ are equal, prove that

$$2a = b + c.$$

21. For the AP : $-3, -7, -11, \dots$, can we find directly $a_{30} - a_{20}$ without actually finding a_{30} and a_{20} ? Give reasons for your answer.

22. Determine k so that $k^2 + 4k + 8, 2k^2 + 3k + 6, 3k^2 + 4k + 4$ are three consecutive terms of an AP.

23. If S_n denotes the sum of first n terms of an AP, prove that $S_{12} = 3(S_8 - S_4)$.

24. Find the sum of first seven numbers which are multiples of 2 as well as of 9. [Hint : Take the LCM of 2 and 9]

25. If the points $(p, q), (m, n)$ and $(p - m, q - n)$ are collinear show that $pn = qm$.

26. If the points $(10, 5), (8, 4)$ and $(6, 6)$ are the midpoints of the sides of a triangle, find its vertices.

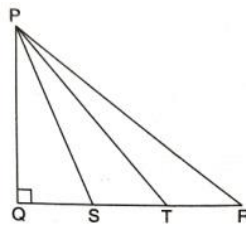
27. In an AP if p^{th} term is $\frac{1}{q}$ and q^{th} term is $\frac{1}{p}$, prove that the sum of first pq terms is $\frac{1}{2}(1 + pq)$, where $p \neq q$.

28. If $\Delta ABC \sim \Delta DEF$, $AB = 4\text{cm}$, $DE = 6\text{cm}$, $EF = 9\text{cm}$ and $FD = 12\text{cm}$, find the perimeter of ΔABC .

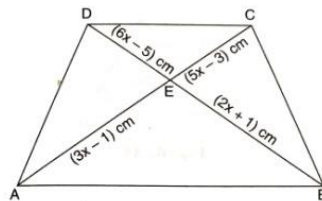
29. Prove that the area of the semicircle drawn on the hypotenuse of a right angled triangle is equal to the sum of the areas of the semicircles drawn on the other two sides of the triangle.

30. The lengths of the diagonals of a rhombus are 30cm and 40cm . Find the side of the rhombus.

31. As shown in figure S and T trisect the side QR of a right triangle PQR. Prove that $8PT^2 = 3PR^2 + 5PS^2$.



32. In figure ABCD is a trapezium, in which $AB \parallel DC$ and the diagonals AC and BD intersect at E. If $CE = (5x - 3)\text{cm}$, $EA = (3x - 1)\text{cm}$, $DE = (6x - 5)\text{cm}$ and $EB = (2x + 1)\text{cm}$, find the value of x .



33. If $(5, 2)$, $(-3, 4)$ and (x, y) are collinear show that $x + 4y - 13 = 0$.

34. Find the coordinates of the points which divide the line segment joining the points $(-4, 0)$ and $(0, 6)$ in three equal parts.

35. If the vertices of a triangle are $(1, k)$, $(4, -3)$, $(-9, 7)$ and its area is 15 sq units , find the values of k .

36. If $x = 3\sin\theta$ and $y = 4\cos\theta$, find the value of $\sqrt{16x^2 + 9y^2}$.

37. If $6x = \sec\theta$ and $\frac{6}{x} = \tan\theta$, find the value of $9\left(x^2 - \frac{1}{x^2}\right)$.

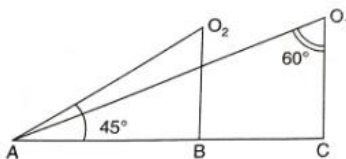
38. Without using trigonometric tables evaluate the following :

i) $\left(\frac{\tan 20^\circ}{\cos ec 70^\circ}\right)^2 + \left(\frac{\cot 20^\circ}{\sec 70^\circ}\right)^2 + 2 \tan 15^\circ \tan 45^\circ \tan 75^\circ$

ii) $\frac{11 \sin 70^\circ}{7 \cos 20^\circ} - \frac{4 \cos 53^\circ \cos ec 37^\circ}{7 \tan 15^\circ \tan 35^\circ \tan 55^\circ \tan 75^\circ}$

39. If $7\sin^2 A + 3\cos^2 A = 4$, show that: $\tan A = \frac{1}{\sqrt{3}}$.

40. Prove that : $2(\sin^6 \theta + \cos^6 \theta) - 3(\sin^4 \theta + \cos^4 \theta) + 1 = 0$
41. The height of a tower is 10m. Calculate the length of its shadow when Sun's altitude is 45° .
42. In figure what are the angles of depression from the observing positions O_1 and O_2 of the object at A?



43. A person standing on the bank of a river observes that the angle of the elevation of the top of a tree standing on the opposite bank is 60° . When he moves 40m away from the bank, he finds the angle of elevation to be 30° . Find the height of the tree and the width of the river. ($\sqrt{3} = 1.732$)
44. A man standing on the deck of a ship, which is 10m above water level, observes the angle of elevation of the top of a hill as 60° and angle of depression of the base of the hill as 30° . Find the distance of the hill from the ship and height of the hill.
45. An Aeroplane when flying at a height of 3125m from the ground passes vertically below another plane at an instant when the angles of elevation of the two planes from the same point on the ground are 30° and 60° respectively. Find the distance between the two planes at that instant.

PHYSICS

➤ Project works:

1. Collect any five current bills from your Neighbors and calculate the energy consumed in Joules.
2. Make a powerpoint on "Why prisms are used in Binoculars"
(www.physicalscienceblogspot.in)

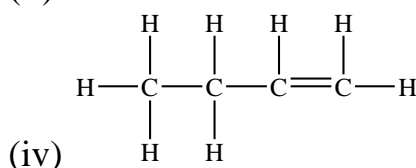
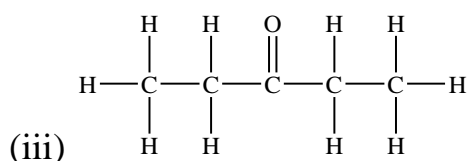
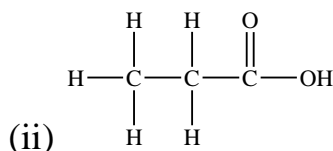
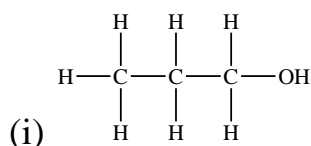
Steps in Project Report:

- | | | |
|---------------------|---|---|
| Name of the project | : | Write the name of the project. |
| Objectives | : | Write what you can learn after completion of the project. |
| Tool | : | Required materials are written in this field. |
| Procedure | : | Write step by step procedure. |
| Table | : | Draw a table if the project |
| Conclusion | : | Write what you know from this project: |
| Resources | : | From where you set the relevant materials |

CHEMISTRY

1. Revise chemical reactions and equations.
2. Make a project on topic:
Metals and Non – metals : Concentration of ore.
Extraction of metals.
Refining of metals.
3. Identify the compounds A to E in the following reaction sequences:
i) $CH_3CH_2OH \xrightarrow{KMnO_4+KOH} A$ ii) $CH_3CH_2OH + A \xrightarrow[\Delta]{Conc.H_2SO_4} B$
iii) $B + NaOH \rightarrow C + CH_3CH_2OH$ iv) $A + NaHCO_3 \rightarrow C + D + H_2O$
v) $CH_3CH_2OH + E \rightarrow CH_3CH_2ONa + H_2$

4. Identify and name the functional group present in the following compounds. Also write the IUPAC name of each compound.



5. Which of the following hydrocarbons undergo addition reaction?
 C_2H_6 , C_3H_8 , C_3H_6 , C_2H_2 and CH_4 .

All the work done soft copy should sent to the given email id:

wisewoodschemistry@gmail.com

Hard copy will collect after vacation.

SOCIAL SCIENCE

➤ Project Work:

Collect the information about Consumer rights, such as need of consumer protection, causes of consumer exploitation, responsibilities of consumer, consumer protection Act 1986 (COPRA) and including samples.

Answer the following:

1. Explain the revolutionary principles incorporated by Napoleon in the administration of France during his reign.
2. Explain the classification of resources on the basis of ownership.
3. Name the most important beverage crop of India. Describe the suitable climatic conditions required for its growth. Also mention the major states producing that crop.
4. "There is an urgent need to develop a sustainable path of energy development". Justify the statement by giving at least three reasons.
5. "The economic strength of a country is measured by the development of manufacturing industries". Support the statement with arguments.
6. "Advancement of international trade of a country is an index of its economic prosperity." Justify the statement with five arguments.
7. What are some of the basic elements of Belgium model of power sharing? Write any three.
8. Explain the major key features of federalism.
9. What are the limitations of the per capita income criteria of development?
10. Why is the tertiary sector becoming so important in India? Give at least four reasons.