TAGORE INTERNATIONAL SCHOOL

Mansarovar, Jaipur

Holiday Home Work (2017 – 2018)

Class - IX

Dear student,

Home Assignment is a set of tasks designed by teachers for students to enhance their knowledge and improve all their abilities and skills. It makes students think out of box, conventionally to work on their acquired knowledge. Sumer Vacations are synonymous with fun and frolic, but there is lot more you can do to make your vacations interesting and meaningful by taking up all the given interesting tasks.

ENGLISH COMMUNICATIVE

❖ "Appearances are deceptive", keeping in mind the famous maxim, here is a creative and interesting task for the students. Watch the movie "The Series of Unfortunate Events" based on the creation of a famous writer.

Things to be done:-

- Name of the writer of the book on which the movie is based.
- Description of atleast five disguises taken on by one of the major characters in the movie.
- Critical review of the movie.

❖ Design a value based story with visuals. (Highlight it by giving an interesting title and a promising end with a moral)

Words Limit: 100 Words

[To be done in English Notebook]

HINDI

मुझे पहचानो तो जानू

इनकी माता का नाम श्रीमती शारदा देवी था। प्रख्यात नाटककार उपन्यासकार, संगीतकार थे। किन्तु अपनी स्कूली शिक्षा भी इन्होंने पूरी नहीं की। पहली कविता आठ वर्ष की आयु में ही लिख डाली। गाँधी जी को महात्मा नाम इन्होंने ही दिया। 7 अगस्त 1941 में ये महान व्यक्तित्व इस संसार से विदा हो गया।

पहचाना आपने? किसकी बात कर रहे हैं? इनकी किसी कहानी को पढ़े, सार लिखें तथा बताएं कि आपने इस कहानी से प्राप्त शिक्षा को जीवन में कैसे अपनाया या अपनाएगें?

अथवा

मैं रंगमंच से जुड़ा एक व्यक्तित्व हूँ जिसे 'पदम श्री' एवं 'पद्मभूषण' से सम्मानित किया गया। 'चरणदास चोर', 'मिट्टी की गाड़ी' आदि मेरे प्रसिद्ध नाटक हैं। 'चरणदास चोर' ने मुझे चारों ओर प्रसिद्ध किया जिस पर फिल्म भी बन चुकी है। 'जहरीली हवा' नाटक मैंने भोपाल गैस त्रासदी पर लिखा है।

इस महान नाटककार को पहचानकर इनकी कोई एक रचना पढ़े, समझे एवं उसके विषय में लिखें तथा इससे प्राप्त शिक्षा को कैसे अपनाया? लिखें।

[To be done in Hindi Notebook]

SANSKRIT

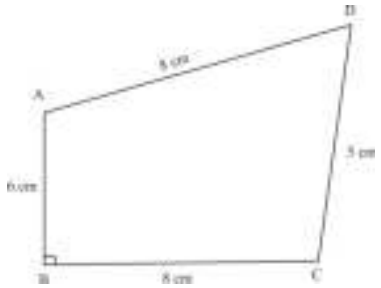
"श्री दीपक राठौड़ मैमोरियल साइन्स अवॉर्ड सेरेमनी"

इत्यस्मिन् विषये एकम् अनुच्छेदं लिखत। (100–150 शब्दपरिमितः)

[To be done in Sanskrit Notebook]

MATHEMATICS

1. Find the area of a triangle whose sides are 6cm, 8cm and 10cm.
2. The sides of a triangle are in the ratio 2 : 3 : 4. If the perimeter of the triangle is 180cm, find the area of the triangle.
3. The equal sides of are isosceles triangle are 5cm each. If the perimeter of the triangle is 16cm, find the approx area of the triangle.
4. Find the area of the given quadrilateral.



5. Find the area of an equilateral triangle whose perimeter is 24cm.
6. One side of an equilateral triangle is 8cm. Find its altitude.
7. The base of an isosceles triangle measures 24cm and its area is 192 cm^2. Find its perimeter.
8. The crest of leveling a triangular plot at the rate of Rs. 12 per Sq. m is Rs. 81000. If the sides of the plot are in the ratio 13: 12: 5, find its sides.
9. The diagonal of a square sheet of paper is $20\sqrt{2}$ cm. Find the area of sheet.
10. Find the area of trapezium whose parallel sides are 60cm and 77cm and non parallel sides 25cm 26cm.
11. If the polynomials $(2x^3 + ax^2 + 3x - 5)$ and $(x^3 + x^2 - 2n + a)$ leave the same remainder when divided by $(x - 2)$.
12. Find the value of 'a' for which $(x - a)$ is a factor of the polynomial.
$f(x) = x^5 - a^2x^3 + 2x + a - 3$
13. Factorize $x^3 + \frac{1}{x^3} - 2 - 3x + \frac{1}{x}$
14. Factorize $a(a - 1) - b(b - 1)$
15. Factorize $(a - 2c + b)(a - 2c - b)$
16. Factorize $2x - \frac{5}{6}x + \frac{1}{12}$
17. Factorize $4\sqrt{3}x^2 , 5x + 2\sqrt{3}$
18. Find the zeros of $2x^3 + 7x^2 - 24x - 45$ and also find its factors
19. Factorize: $2x^2 + y^2 + 8z^2 - 2\sqrt{2}xy + 4\sqrt{2}yz - 8xz$
20. If $a + b + c = 0$, then $\left(\frac{a^2}{bc} + \frac{b^2}{ca} + \frac{c^2}{ab}\right) = ?$
21. Determine rational numbers P and q if: $\frac{7+\sqrt{5}}{7-\sqrt{5}} - \frac{7-\sqrt{5}}{7+\sqrt{5}} = P - 7\sqrt{5}q$
22. Show that: $\frac{1}{3-\sqrt{8}} - \frac{1}{\sqrt{8}-\sqrt{7}} + \frac{1}{\sqrt{7}-\sqrt{6}} - \frac{1}{\sqrt{6}-\sqrt{5}} + \frac{1}{\sqrt{5}-2} = 5$
23. Show that: $\frac{x^{-1}+y^{-1}}{x^{-1}} + \frac{x^{-1}-y^{-1}}{x^{-1}} = \frac{x^2+y^2}{xy}$
24. If $x = 2 + 3\sqrt{2}$, then find the value of $\left(x + \frac{14}{x}\right)$
25. If $2^a = 3^b = 6^c$ then show that $c = \frac{ab}{a+b}$
26. If $x = \frac{\sqrt{p+q} + \sqrt{p-q}}{\sqrt{p+q} - \sqrt{p-q}}$ then find the value of $qx^2 - 2px + q$
27. Write 10 rational and 10 irrational numbers between $\sqrt{5}$ and $\sqrt{6}$.
28. Represent the following numbers on number line –
a) $3\sqrt{2}$ b) $-\frac{11}{3}$ c) $\sqrt{8.9}$
29. Convert in to $\frac{p}{q}$ from:
a) $102.0\overline{2}$ b) 0.473333....
30. Simplify: $\sqrt{7 + 4\sqrt{3}}$

Project Work

Take the Water bill of your house for the last 5 months. Compare the consumption in different months, using a bar graph.

Suggest some ways by which you can reduce the consumption of water.

Also, throw some light on the need to save water.

[To be done in Maths Notebook]

SCIENCE

[Part – A]

'Learning by doing' – so correctly said, is one of the best methods of acquiring Knowledge. School laboratories provide you with immense opportunities to do and learn. And when you enter a Chemistry lab, the most amazing world of chemicals opens its door to give wings to your thoughts and explains the logic behind everything that is happening in the world around you. But being there requires various safety measures to be followed as the chemicals present there may be hazardous.

a) List any ten chemicals present in your lab that may cause you harm.

b) List the safety measures that you will follow in case of –

i) Chemical spill emergency

ii) Fire emergency

iii) Hazardous Material splashed in eye

c) Also list down 5 physical and 5 chemical changes taking place in your daily life.

[To be done in Chemistry Notebook]

[Part - B]

You are playing in a garden with your friend; your friend throws a ball vertically upward and it returned back to ground. Now you tried the same, but this time the ball reaches to a greater height and returned back.

1. Why the ball reaches two different heights in two cases?
2. But in both the cases it returned back to ground? Can you give a reason?
3. Draw the velocity-time graph for both the cases. (Comparative)
4. Draw Displacement-time graph for both the cases. (Comparative)
5. Draw Acceleration-time graph for both the cases.

[To be done in Physics Notebook]

SOCIAL STUDIES

"Too much of anything is good for nothing" and that is why the great thinker Aristotle said 'Balance is a virtue'. It is balance that matters. Is it also true when it comes to become a patriot or a nationalist? Can it cause harm, create hatred, go to the extent of taking lives of others and justify it in the name of patriotism? It is sad but true. Every day we come across cases related to the above discussion through news channels & print media.

We want you to discuss one such event happening in any part of India/world with supportive in ages, relevant news clippings and authentic facts & more importantly your ideas for a way out.

[To be done in History Notebook]

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TAGORE INTERNATIONAL SCHOOL

Mansarovar, Jaipur

Holiday Home Work (2017 – 2018)

Class - X

Dear student,

Home Assignment is a set of tasks designed by teachers for students to enhance their knowledge and improve all their abilities and skills. It makes students think out of box, conventionally to work on their acquired knowledge. Sumer Vacations are synonymous with fun and frolic, but there is lot more you can do to make your vacations interesting and meaningful by taking up all the given interesting tasks.

ENGLISH COMMUNICATIVE

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- Name of the writer of the book on which the movie is based.
- Description of atleast five disguises taken on by one of the major characters in the movie.
- Critical review of the movie.

❖ Design a value based story with visuals. (Highlight it by giving an interesting title and a promising end with a moral)

Words Limit: 100 Words

[To be done in English Notebook]

HINDI

पंचतत्वों की आत्मकथा

हे मानव हमने ब्रह्माण्ड की रचना की। वर्षों तक तुम्हारा पालन–पोषण किया। हम तुम्हारे अस्तित्व की कूँजी रहे। किन्तु दुर्भाग्यवश तुम्हारी लापरवाही और दुष्कर्मों के कारण आज हम सिसक रहे हैं, कराह रहे हैं। हमारी स्थिति में स्वयं को रखकर उसे दूर करने के उपायों का वर्णन करें।

किसी एक तत्व के विषय में लिखें तथा चित्रों से सजाए।

SANSKRIT

"श्री दीपक राठौड़ मैमोरियल साइन्स अवॉर्ड सेरेमनी"

इत्यस्मिन् विषये एकम् अनुच्छेदं लिखत। (100–150 शब्दपरिमितः)

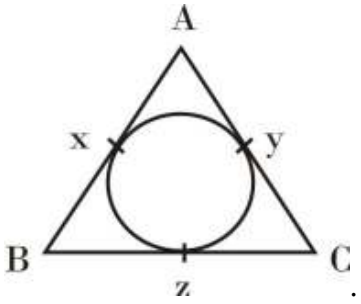
[To be done in Sanskrit Notebook]

MATHEMATICS

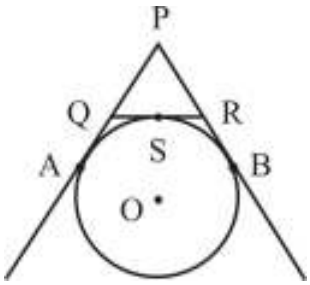
1. If a is a non zero rational and $\sqrt{b}$ is a irrational, then show that $a\sqrt{b}$ is irrational.
2. If $\sqrt{ab}$ is an irrational number, prove that $\sqrt{a}+\sqrt{b}$ is irrational.
3. If one zero of the polynomial $\left(a^2+9\right)x^2+13x+6a$ is reciprocal of the other, find the value of 'a'.
4. If α, β are the zeroes of the polynomial x^2-px+q, then find the value of each of the following:

   (i) $\frac{\alpha}{\beta}+\frac{\beta}{\alpha}$ (ii) $\alpha\beta^3+\beta\alpha^3$ (iii) $\alpha^3\beta^2+\alpha^2\beta^3$
5. If α, β are the zeroes of the polynomial $f(x)=x^2-3x-2$, find a quadratic polynomial whose zeroes are $\frac{1}{2\alpha+\beta}$ and $\frac{1}{2\beta+\alpha}$.

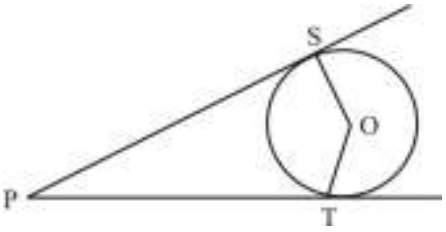
6. What must be added to the polynomial $f(x) = x^4 + 2x^3 - 2x^2 + x - 1$, so that the resulting polynomial is exactly divisible by $x^2 + 2x - 3$.
7. Find all the zeroes of the polynomial $p(x) = 2x^4 + 7x^3 - 19x^2 - 14x + 30$, if two of its zeroes are $\sqrt{2}$ and $-\sqrt{2}$
8. ABC is an isosceles triangle in which AB = AC which is circumscribed about a circle as shown below. Show that BC is bisected at the point of contact.



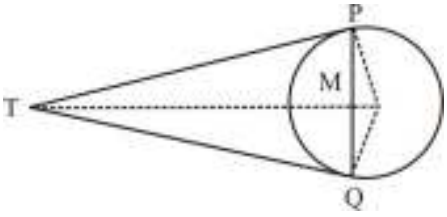
9. If PA and PB are the tangents to a circle with centre O drawn from an external point P. QR is a tangent at point S. Prove that: PQ + QS = PR + RS.



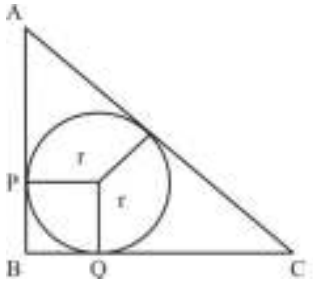
10. In figure, $\angle SOT = 120^\circ$ Prove that $4PS^2 = 3OP^2$

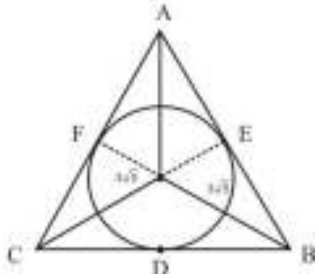


11. If PQ is a chord of length 8cm in a circle of radius 5cm. The tangents at P and Q intersect at a point T. Find the length TP.



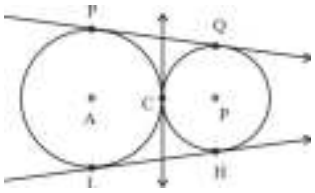
12. If radius of the circle is 3cm. Find the perimeter of the triangle. (FIG. 1)





(FIG. 2) (FIG. 1)

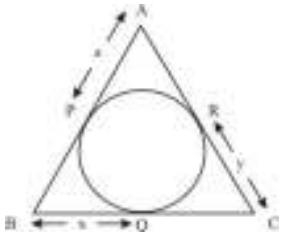
13. If ABC is right angle triangle, right angled at B such that BC = 6cm and AB = 8cm. Find the radius of its in circle. (Fig. 2)

14. 

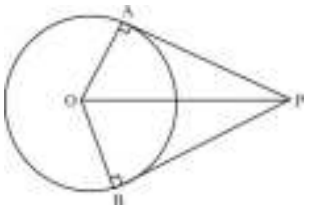
If two circles touch each other externally at C. Prove that the common tangent at C bisects the other two common tangents.

15. Prove that the parallelogram circumscribing a circle is a rhombus.
16. Prove that if x and y are odd positive integers, and then $x^2 + y^2$ is even but not divisible by 4.
17. Find the HCF of 81 and 237 and express it as linear combination of 81 and 237.
18. 105 goats, 140 donkeys and 175 cows have to be taken across a river. There is only one boat which will have to make many trips in order to do so. But the boatman has some conditions that he will take the same number of animals in every trip and they have to be of the same kind, find the number of trips and number of animals of each kind in each trip.
19. Determine the number nearest to 110000 but greater than 100000 which is exactly divisible by each 8, 15 and 21.
20. In a seminar, the number of participants in Hindi, English and Mathematics are 60, 84 and 108 respectively. Find the minimum number of rooms required if in each room the same numbers of participants are to be seated and all of them being in the same subject.
21. Write whether $\frac{2\sqrt{45}+3\sqrt{20}}{2\sqrt{5}}$ on simplification gives a rational or an irrational number.
22. Find the zeroes of the polynomial $f(x) = 4\sqrt{3}x^2 + 5x - 2\sqrt{3}$, and verify the relationship between the zeroes and its coefficients.
23. If the polynomial $6x^4 + 8x^3 + 17x^2 + 21x + 7$ divided by another polynomial $3x^2 + 4x + 1$ the remainder comes out to be $ax + b$, find a and b.
24. The radius of the incircle of a triangle is 4cm and the segments into which one side is divided by the point of the arc 6cm and 8cm. Determine the other two sides of the triangle.
25. If α, β are the zeroes of the polynomial $x^2 + px + q$, prove that $\frac{\alpha^2}{\beta^2} + \frac{\beta^2}{\alpha^2} = \frac{p^4}{q^2} + 2 - \frac{4p^2}{q}$.
26. Given that the zeroes of the cubic polynomial $x^3 - 6x^2 + 3x + 10$ are of the form a, a + b, a + 2b for some real numbers a and b, find the values of a and b, and also the zeroes of the given polynomial.
27. Reena tells Teena that her age (in years) is equal to the sum of squares of the zeroes of the polynomial $x^2 + 6x + 10$. Further, she asserts that after two years her age (in years) will be equal to the sum of products of the zeroes taken two at a time of the polynomial $x^3 - 7x^2 + 20x - 12$.
    (a) Find the age of Reena as per her first statement.
    (b) What will be the age of Reena after two years as per her second statement?
    (c) Comment on the behavior of Reena.
28. If a, b, c are the sides of a right triangle where c is the hypotenuse, prove that the radius r of the circle which touches the sides of the triangle is given by $r = \frac{a+b-c}{2}$.

29. A circle is inscribed in ΔABC as shown in figure. If AB = 9cm, BC = 7cm and AC = 8cm, find the values of x, y and z.



30. In figure OP is equal to the diameter of the circle. Prove that ΔABP is an equilateral triangle.



PROJECT WORK

Take the Water bill of your house for the last 5 months. Compare the consumption in different months, using a bar graph. Suggest some ways by which you can reduce the consumption of water.
Also, throw some light on the need to save water.

[To be done in Maths Notebook]

SCIENCE

On a rainy day, you are roaming around in your locality, suddenly there is spark and a loud explosion took place in a giant circuit (device) present at the corner of the street. You and your friends are shocked and surprised to notice it.

Now being a curious science student, you enquired and tried to find about the incident.

1. What is that device?
2. What is application of that device?
3. What are its types?
4. On what principle it works?
5. At the time of incident and after that, what steps you must take as a responsible citizen.

[To be done in Physics Notebook]

SOCIAL STUDIES

"Too much of anything is good for nothing" and that is why the great thinker Aristotle said 'Balance is a virtue'. It is balance that matters. Is it also true when it comes to become a patriot or a nationalist? Can it cause harm, create hatred, go to the extent of taking lives of others and justify it in the name of patriotism? It is sad but true. Every day we come across cases related to the above discussion through news channels & print media.
We want you to discuss one such event happening in any part of India/world with supportive in ages, relevant news clippings and authentic facts & more importantly your ideas for a way out.

[To be done in History Notebook]

Project Work
ECONOMICS

A graphical representation of "family budget". It should comprise the following:-

- Expenses including payment of tax (related images should be used)
- Source of Income of the family (related images if possible)
- Accounting format for income & expenditure (format will be provided)
- Various ways to save
- Representation in the form of Pie chart and bar graph.(samples will be shown)

PTO

FOR THE MONTH OF

CATEGORY	MONTHLY REPORT
Total Income	
Taxes	
Actual Income	
Grocery + Fruit + Veg	
Milk	
Electricity + Water	
Conveyance	

CATEGORY	MONTHLY REPORT
Clothing	
Education + Classes	
Entertainment + Presentation	
Automobiles	
Telephone + Mobile	
Home Helpers	
Repairs	
Cable + Internet Connection	
Travelling	
Laundry	
Shopping	
Stationery	
Medical	
Grand Total	
Savings	
Yearly Savings	

Instructions

- The first page of the project should have the following details:
  a) Name of the Student
  b) Class and Section
  c) Session
- The second page must have the following:

Subject	Remarks by Teacher	Teacher's Signature

- The project should be hand written on A4 sized coloured sheets.
- All subject specific tasks or homework to be attempted separately.
- Cover page, table of contents, acknowledgements, and bibliography should be included.
- It should be well presented, researched and pictorial
- **The project carries 20 marks:**
  a) Relevance of the content – 5 marks
  b) Expression of the ideas – 4 marks
  c) Presentation – 4 marks
  d) Research – 4 marks
  e) Creativity – 3 marks

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