

ASN Sr. Sec. School
Class 11
HOLIDAY HOMEWORK 2019-2020

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COMMERCE

ENGLISH

Collect newspaper cuttings related to given topics and paste it in your language copy)

- 1. Classified advertisements (Minimum 5 in each category)**
 - *Sale/Purchase of property and household items
 - *To-let and Wanted on Rent
 - *Sale/Purchase of Vehicles - Two wheelers/Four wheelers
 - *Situation Vacant and Wanted (job required)
 - *Matrimonials
 - *Missing Person/Thing/Pet
 - 2. Commercial/Display advertisement (Minimum 2 in each category)**
 - a) Launching of a product
 - b) Off Season Sale
 - c) Opening of Coaching centres/Boutique/Showroom
 - 3. Formal Invitations (marriage/birthday /house warming ceremony etc and school function) – (one in each category)**
 - 4. Posters (Social issues) – (Minimum 1 in each category)**

Road Safety, Terrorism, Self Defence, Woman Empowerment, Environment, Consumer Awareness, Awareness about Diseases
- II. Report Writing**
Select reports on the following topics from the newspaper and paste it in your language copy :
- a) School report highlighting any event(workshop, farewell ,investiture, orientation program, annual function etc.
 - b) Reports related to rally, accidents, burglary, protest etc.
 - c) Mention the differences in the drafting of the two.
- 12. Read the autobiography of Dr. APJ Kalam, 'Wings of Fire' and write a critical review of the same in 200 words.**

MATHEMATICS

LINEAR INEQUALITIES

1 mark questions

Q1. Solve the following linear inequation $\frac{7x-8}{8x+3} > 4$

Q2. Solve the inequation $2x-3 \geq x + \frac{1-x}{3} > \frac{2}{5}x$

Q3. Find the solution set of $(x-1)(3-x)(x-2)^2 \leq 0$

Q4. Solve the inequation $|4-x| > x-4$

Q5. Find the solution set of $|3x+2| > 14$

Q6. If $X < 5$, then

a) $-x < -5$

b) $-x \leq -5$

c) $-x > -5$

d) $-x \geq -5$

Q7. Given that x, y and b are real numbers and $x < y$, $b < 0$, then

- a) $x/b < y/b$ b) $x/b \leq y/b$ c) $x/b > y/b$ d) $x/b \geq y/b$

Q8. If $-3x + 17 < -13$

- a) $x \in (10, \infty)$ b) $x \in [10, \infty]$ c) $x \in (-\infty, 10]$ d) $x \in [-10, 10)$

Q9. If x is a real number and $|x| < 3$, then

- a) $x \geq 3$ b) $-3 < x < 3$ c) $x \leq -3$ d) $-3 \leq x \leq 3$

Q10. If $|x - 1| > 5$, then

- a) $x \in (-4, 6)$ b) $x \in [10, \infty]$ c) $x \in (-\infty, 10]$ d) $x \in [-10, 10)$

4 marks questions

Q11. A company manufactures cassettes and its cost equation for a week is $C = 300 + 1.5x$ and its revenue equation is $R = 2x$, where x is the number of cassettes sold in a week. How many cassettes must be sold for the company to realize a profit?

Q12. The water acidity in a pool is considered normal when the average pH reading of three daily measurement is between 7.2 and 7.8. if the first two pH readings are 7.48 and 7.85 find the range of pH value for third reading that will result in the actual level being normal.

Q13. Find all pairs of consecutive odd natural numbers both of which are larger than 10 and are such that their sum is smaller than 40.

6 marks questions

Q14. Show that the following system of linear inequalities has no solution :

$$X + 2y \leq 3, \quad 3x + 4y \geq 12, \quad x \geq 0, \quad y \geq 1$$

Q15. A solution of 8% boric acid is to be diluted by adding 2% boric acid solution to it. The resulting mixture is to be more than 4% but less than 6% boric acid. If we have 640 litres of the 8% solution, how many litres of the 2% solution will have to be added?

Q16. m litres of acid solution contains $m\%$ acid. How many litres of acid may be added to it so that the resulting solution may have the acid content lying between $2m\%$ and $3m\%$?

SEQUENCES AND SERIES

1 mark questions

Q1. How many terms of the series $54, 51, 48, \dots$ be taken so that their sum is 513?

Q2. Find the arithmetic mean between $(x - y)$ and $(x + y)$?

Q3. Insert three A.M. between 3 and 19.

Q4. Which term of the G.P. $2, 1, \frac{1}{2}, \frac{1}{4}, \dots$ is 128?

Q5. How many terms of the G.P. $1 + 4 + 16 + 64 + \dots$ will make the sum 5461?

Q6. Solve : $1 + 6 + 11 + 16 + \dots + x = 148$

Q7. How many terms of the G.P. $3, 3/2, 3/4, \dots$ are needed to give the sum $3069/512$?

4 marks questions

Q8. If the roots of $(b - c)x^2 + (c - a)x + (a - b) = 0$ are equal, then prove that a, b, c are in A.P.

- Q9. If $a+b+c \neq 0$ and $b+c/a$, $c+a/b$, $a+b/c$ are in A.P., prove that $1/a$, $1/b$, $1/c$ are also in A.P.
- Q10. If S_1 be the sum of $(2n+1)$ terms of an A.P. and S_2 be the sum of its odd terms, then prove that $S_1:S_2=(2n+1):(n+1)$.
- Q11. If the sum of n terms of two arithmetic series are in the ratio $7n+1:4n+27$, find the ratio of their 11^{th} terms.
- Q12. The sum of n terms of three A.P.'s are S_1, S_2 and S_3 . The first term of each is unity and the common difference are 1, 2 and 3 respectively. Prove that $S_1+S_3=2S_2$.
- Q13. The sides of a right angled triangle are in A.P. Show that these are in the ratio 3:4:5.
- Q14. How many terms of the G.P. $3, 3/2, 3/4, \dots$ are needed to give the sum $3069/512$?
- Q15. Find the sum of 50 terms of the sequence $7, 7.7, 7.77, 7.777, \dots$
- Q16. In an increasing G.P., the sum of the first and the last term is 66. The product of the second and the last but one is 128 and the sum of the terms is 126. How many terms are there in the progression?
- Q17. The first term of a G.P. is 2 and the sum to infinity is 6. Find the common ratio.
- Q18. Prove that $: 3^{1/2}.3^{1/4}.3^{1/8} \dots = 3$
- Q19. If $x= 1+a+a^2+\dots$ and $y= 1+b+b^2+\dots$, then prove that $1+ab+a^2b^2+\dots = xy/(x+y-1)$
- Q20. Find two numbers whose arithmetic mean is 34 and geometric mean is 16.
- Q21. One side of an equilateral triangle is 24cm. the mid points of its sides are joined to form another triangle whose mid points, in turn, are joined to form still another triangle. This process continues indefinitely. Find the sum of the perimeters of all the triangles.
- Q22. Find two numbers whose A.M. is 34 and G.M. is 16.
- Q23. Find three numbers in A.P. whose sum is 24 and whose product is 440.
- Q24. Divide 32 into four parts which are in A.P. such that the products of the extremes is to the product of means is 7:15.
- Q25. Find a G.P. the sum of whose first two terms is 4 and the fifth term is four times the third.
- Q26. The sum of first three terms of a G.P. is 16 and the sum of the next three terms is 128. Determine the first term and the common ratio of the G.P.
- Q27. If A.M. and G.M. of two positive numbers a and b are 10 and 8 respectively, find the numbers.
- Q28. If reciprocals of $\frac{x+y}{2}, y, \frac{y+z}{2}$ are in A.P. show that x, y, z are in G.P.
- Q29. The sum of three numbers in G.P. is 42. If the first two numbers are increased by 2 and third is decreased by 4, the resulting numbers form an A.P. find the numbers of G.P.
- Q30. If a is the A.M. between b and c , and b is the G.M. between a and c , then show that $\frac{1}{a}, \frac{1}{c}, \frac{1}{b}$ are in A.P.
- Q31. If a, b, c are in A.P. and x, y, z are in G.P., then show that $x^{b-c}.y^{c-a}.z^{a-b}=1$
- 6 marks questions
- Q32. Find the n^{th} term of the series $1+3+7+15+31 \dots$ Also find the sum to n terms.
- Q33. Find three numbers which are in A.P. and whose sum is 15. If 1, 4, 19 be added to them respectively, the resulting numbers are in G.P.. Find the numbers.

TRIGONOMETRY

1 mark questions

Q1. If $\tan A = k \tan B$, show that $\sin(A+B) = \frac{k+1}{k-1} \sin(A-B)$

Q2. Find the angle between the minute hand and hour hands of a clock at 8:30.

Q3. A circular wire of radius 7cm is cut and bent again into an arc of a circle of radius 12cm. Find the angle subtended by the arc at the centre in degrees.

4 mark questions

Solve the following equations

Q7. $2\cos^2\theta + 3\sin\theta = 0$

Q8. $\cot^2\theta + \frac{3}{\sin\theta} + 3 = 0$

Q9. Prove that: $\sqrt{2 + \sqrt{2 + \sqrt{2 + 2\cos 8\theta}}} = 2\cos\theta$

Q10. Prove that : $\cos 36^\circ = (\sqrt{5} + 1)/4$

Q11. The angles of a triangle are in A.P. The number of degrees in the least is to the number of radians in the greatest is $60:\pi$. Find the angles in degrees. $30^\circ, 60^\circ, 90^\circ$.

Q12. Prove that: $\frac{\cos(90+\theta) \sec(-\theta) \tan(180-\theta)}{\sec(360-\theta) \sin(180+\theta) \cot(90-\theta)} = -1$

Q13. Prove that $\frac{\sec 8A - 1}{\sec 4A - 1} = \frac{\tan 8A}{\tan 2A}$

Q14. Prove that: $2\cos\frac{\pi}{13}\cos\frac{9\pi}{13} + \cos\frac{3\pi}{13} + \cos\frac{5\pi}{13} = 0$

Q15. Prove that: $\cos^2x + \cos^2(x + \frac{2\pi}{3}) + \cos^2(x - \frac{2\pi}{3}) = 3/2$

Q16. Prove that: $\frac{\cos 8A \cos 5A - \cos 12A \cos 9A}{\sin 8A \cos 5A + \cos 12A \sin 9A} = \tan 4A$

Q17. Prove that: $\sin A \sin(60^\circ - A) \sin(60^\circ + A) = \frac{1}{4} \sin 3A$

Q18. If $\tan x = 3/4$, $\pi < x < \frac{3\pi}{2}$ find the values of $\tan \frac{x}{2}$, $\sin \frac{x}{2}$, $\cos \frac{x}{2}$.

In any triangle ABC, prove that:

Q19. $\frac{\sin(B-C)}{\sin(B+C)} = (b^2 - c^2)/a^2$

Q20. $a \sin(B-C) + b \sin(C-A) + c \sin(A-B) = 0$

Q21. $a^3 \sin(B-C) + b^3 \sin(C-A) + c^3 \sin(A-B) = 0$

Q22. $\sin\left(\frac{B-C}{2}\right) = \left(\frac{b-c}{a}\right) \cos \frac{A}{2}$

Q23. $\cos\left(\frac{B-C}{2}\right) = (b+c) \sin \frac{A}{2}$

Q24. $\left(\frac{b-c}{b+c}\right) = \frac{\tan\left(\frac{B-C}{2}\right)}{\tan\left(\frac{B+C}{2}\right)}$

6 marks questions

Q25. Prove that: $\cos 20^\circ \cos 40^\circ \cos 60^\circ \cos 80^\circ = 1/16$

Q26. Prove that: $\sin 10^\circ \sin 30^\circ \sin 50^\circ \sin 70^\circ = 1/16$

Q27. Prove that: $\cos^2 A + \cos^2\left(A + \frac{2\pi}{3}\right) + \cos^2\left(A - \frac{2\pi}{3}\right) = 3/2$

In any triangle ABC, prove that :

Q28. $(b-c) \cot \frac{A}{2} + (c-a) \cot \frac{B}{2} + (a-b) \cot \frac{C}{2} = 0$

Q29. $\left(\frac{b-c}{b+c}\right) \cot \frac{A}{2} = \tan\left(\frac{B-C}{2}\right)$

Q30. $\tan\left(\frac{A-B}{2}\right) = \left(\frac{a-b}{a+b}\right) \cot \frac{C}{2}$

Q31. $\tan\left(\frac{C-A}{2}\right) = \left(\frac{c-a}{c+a}\right) \cot \frac{B}{2}$

$$Q32. (b^2-c^2)\cot A + (c^2-a^2)\cot B + (a^2-b^2)\cot C = 0$$

$$Q33. (b^2-c^2)\sin 2A/a^2 + (c^2-a^2)\sin 2B/b^2 + (a^2-b^2)\sin 2C/c^2 = 0$$

ACCOUNTANCY

1. Collection of source documents for example cash memo cheque debit note etc preparation of vouchers accounting voucher debit voucher credit voucher recording of transaction with the help of vouchers.
2. preparation of bank reconciliation statement. statement with given cash book and pass book with twenty to twenty-five transactions.
3. comprehensive project starting with journal entries regarding any sole proprietorship business posting them to ledger and preparation of trial balance the student will then prepare trading and profit and loss account and balance sheet based on trial balance you can use pie chart bar diagram to represent assets and liabilities expenses and losses.

ECONOMICS

- 1) Prepare a Handwritten Project on any **One** of the following topics:
 - a) Effect on PPC due to various government policies
 - b) Solar Energy, a cost-effective Comparison with conventional Energy Sources
 - c) Globalization and Economics
 - d) Demand and its Determinants (with applications)
 - e) Supply and its Determinants (with applications)
 - f) Any Concept from the syllabus

Project report needs to be prepared in accordance with the guidelines given in class.

- 2) Do the Assignment on Chapter-1(Introduction)of Introductory Microeconomics.

BUSINESS STUDIES

1. Prepare the project on RBI
2. Prepare the project on commercial bank
3. Prepare the project on Insurance
4. Revise the lessons taught

PHYSICAL EDUCATION

Important Instructions:

Students prepare their practical file on the basis following events.

- 1- Physical Fitness Test- Students will write about Athletics, in which include introduction, lay out of 400 meter track, all running events, jumping events and throwing events, their fundamental skills, terminologies,
- 2- Students will write about one games and sports skills of any one game of choice from the given list
Athletics, Archery, Badminton, Boxing, Chess, Judo, Shooting, Skating, Swimming, Taekwondo, Tennis, Aerobics, Gymnastics, Yoga, Bocce and Unified Basketball (CWSN).
- 3- Yogic Practices – Students will write about (8) eight yogic asana from the given book with their procedure, Benefits and Contraindications.
- 4- Students will complete their practical file to given above computations:

HOME SCIENCE

1. Prepare a file on any 10 nutritive recipies based on Iron and Calcium content.
Collect advertisement related to Consumer Protection

INFORMATICS PRACTICES

Make a Film/ Documentary on any social/ environment /health related problem of your vicinity with a possible solution proposed

1. Format: .MP4/ .AVI
2. Language Hindi/ English or Bilingual
3. Format SD/ HD
4. The movie/ Documentary should not violate the copyright/intellectual property law.
5. Time :3-5 min