# DAV Global School

## Holiday Homework

**Name : _____** **Class : X** **Session : 2018-19**

*Dear children, Here are some activities for you to keep you engaged positively and your energies directed. Use your imagination for doing creative work that will reflect your own latent talent and make you earn a golden ☆ as a grade. We wish you a wonderful time ahead!*

**General Instructions:**

- Parents are requested to only guide children while doing the assignment.
- Originality of the work will be appreciated.
- Project / Homework will be assessed on the basis of neatness, creativity & originality of ideas.

**English:** (to be done in your Eng. Lang. Notebook) *I am the Grammarian*

Prepare your own grammar book which must include:

a) Tenses
b) Narration
c) Voice
d) Preposition
e) Determiners and articles
f) Connectors

BBC - Complete comprehensions (Reading Section) 5 to 10

BBC - Complete L - 4 of MCB.

Revise complete syllabus of April and May.

**Punjabi :** (to be done in your Punjabi Lang. Notebook)

1. ਕਿਸੇ ਵਸਤੂ ਦਾ ਚਿੱਤਰ ਬਣਾ ਕੇ ਉਸਦੇ ਬਾਰੇ ਜਾਣਕਾਰੀ ਦਿਓ। (ਇਸ਼ਤਿਹਾਰ)
2. ਕੋਈ ਇੱਕ ਚਿੱਤਰ ਚਿਪਕਾ ਕੇ ਲਗਭਗ 50-60 ਸ਼ਬਦਾਂ ਵਿੱਚ ਉਸਦਾ ਵਰਨਣ ਕਰੋ।
3. ਸਮਾਸੀ ਸ਼ਬਦ, ਲੇਖ ਅਤੇ ਪੱਤਰ ਯਾਦ ਕਰੋ।

**Hindi :**

क्षितिज – पाठ 11, 12 याद करें।

कृतिका – पाठ 1 याद करें।

व्याकरण कॉपी में पाँच पृष्ठ सुलेख लिखें।

निबन्ध याद करके कॉपी में लिखें–

परोपकार सामाजिक जीवन में भ्रष्टाचार जब आवै संतोष धन, सब धन धूरि समान

**Math :** (to be done in your Math Notebook)

1. If cosec A= $\sqrt{10}$, find other trigonometric ratios.
2. In a $\Delta ABC$ right angled at C, if tan A = $\frac{1}{\sqrt{3}}$, find the value of sin A cos B + Cos A Sin B.
3. If tan $\theta = \frac{a}{b}$ , P.T. $\frac{a\sin\theta - b\cos\theta}{a\sin\theta + b\cos\theta} = \frac{a^2-b^2}{a^2+b^2}$
4. Evaluate: $\frac{5\,sin^2 30^0 + cos^2 45^0 - 5\,tan^2 30^0}{2\sin 30^0 \cos 30^0 + \tan 45^0}$
5. If sin (A+B) = 1 and Cos (A-B) = $\frac{\sqrt{3}}{2}$, then find A and B.
6. If each $\alpha, \beta$ and $\gamma$ is a positive acute angle s.t. sin $(\alpha + \beta - \gamma) = \frac{1}{2}$, cos $(\beta + \gamma - \alpha) = \frac{1}{2}$ and tan $(\gamma + \alpha - \beta) = 1$, find values of $\alpha, \beta$ and $\gamma$.
7. Evaluate the following:
   (i) $\left(\frac{\sin 35^0}{\cos 55^0}\right)^2 + \left(\frac{\cos 55^0}{\sin 35^0}\right)^2 - 2\cos 60^\circ$
   (ii) $\frac{\cos 70^0}{\sin 20^0} + \frac{\cos 55^0\ cosec\ 35^0}{\tan 5^0\ \tan 25^0\ \tan 45^0\ \tan 65^0\ \tan 85^0}$
8. If sin $3\theta$ = cos $(\theta - 6°)$, where $3\theta$ and $\theta - 6°$ are acute angle, find value of $\theta$.
9. Prove the following trigonometric identities.
   (i) $(\sin^4\theta - \cos^4\theta + 1)\,\text{cosec}^2\theta = 2$
   (ii) $(\text{cosec}\,\theta - \cot\theta)^2 = \frac{1-\cos\theta}{1+\cos\theta}$
   (iii) $\frac{\sin\theta - \cos\theta + 1}{\sin\theta + \cos\theta - 1} = \frac{1}{\sec\theta - \tan\theta}$
   (iv) $\sqrt{\frac{1+\cos\theta}{1-\cos\theta}} + \sqrt{\frac{1-\cos\theta}{1+\cos\theta}} = 2\,\text{cosec}\,\theta$
   (v) $\text{cosec}^6\theta = \cot^6\theta + 3\cot^2\theta\ \text{cosec}^2\theta + 1$
   (vi) $\tan^2\theta - \sin^2\theta = \tan^2\theta \sin^2\theta$
   (vii) $(\text{cosec}\,\theta + \sin\theta)(\text{cosec}\,\theta - \sin\theta) = \cot^2\theta + \cos^2\theta$

(viii) $\frac{\sin\theta}{\cos\theta+cosec\,\theta} = 2 + \frac{\sin\theta}{\cot\theta-cosec\,\theta}$

10. If $4\tan\theta = 3$, evaluate $\frac{4\sin\theta-\cos\theta+1}{4\sin\theta+\cos\theta-1}$
11. If $\tan 2A = \cos(A - 18°)$, where $2A$ is an acute angle, find the value of $A$.
12. If $x = a\sec\theta + b\tan\theta$ and $y = a\tan\theta + b\sec\theta$. Prove that $x^2 - y^2 = a^2 - b^2$.
13. Determine the values of 'a' and 'b' so that the following system of linear equations have many solutions.
    $(2a-1)x + 3y - 5 = 0$
    $3x + (b - 1)y - 2 = 0$
14. For which value (s) of $\lambda$ , do the pair of linear equations $\lambda x + y = \lambda^2$ and $x + \lambda y = 1$ have
    (i) no solution? (ii) infinitely many solutions? (iii) a unique solution?
15. A two digit number is such that the product of its digits is 20. If 9 is added to the number, the digits interchanged their places. Find the number.
16. If one of the zeroes of the polynomial $(a^2+9)x^2+13x+6a$ is the reciprocal of the other, find value of a.
17. Solve: $\frac{ax}{b} - \frac{by}{a} = a + b$ , $ax - by = 2ab$
18. A boat goes 24km upstream and 28 km downstream in 6hrs. It goes *30 km* upstream and *21 km* downstream in $6\frac{1}{2}$ hrs. Find the speed of the boat in still water and speed of the stream.
19. Using Euclid's division algorithm, show that only one of the numbers $n$, $n+2$ and $n+4$ is divisible by 3.
20. Find zeroes of the polynomials and verify relation between zeroes and coefficients.
    (i) $y^2 - 16$ (ii) $3x^2 + 11x - 4$ (iii) $abx^2 + (b^2 - ac)x - bc$
    (iv) $\sqrt{3}x^2 + 10x + 7\sqrt{3}$ (v) $6x^2 - 3$
21. Find all the zeroes of the polynomial $2x^3+x^2-6x-3$, if two of its zeroes are $-\sqrt{3}$ and $\sqrt{3}$.
22. Solve graphically: (i) $2x - 5y + 4 = 0$, $2x + y - 8 = 0$ (ii) $2x - 3y + 13 = 0$, $3x - 2y + 12 = 0$
23. Solve: (i) $\frac{1}{2(x+2y)} + \frac{5}{3(3x-2y)} = \frac{-3}{2}$ (ii) $\frac{5}{4(x+2y)} - \frac{3}{5(3x-2y)} = \frac{61}{60}$
24. 2 men and 7 boys can do a piece of work in 4 days. The same work is done in 3 days by 4 men and 4 boys. How long would it take 1 man and 1 boy to do it.
25. A is elder to B by 2 years. A's father F is twice as old as A and B is twice as old as his sister 'S'. If the ages of the father and sister differ by 40 years, find age of A.

**Science :** (to be done in your Science Notebook)

**Activities:**

1. Take 10 ml of water in two test tubes A and B. Add a drop of oil to both test tubes. To test tube B, and a few drops of soap solution and shake vigorously. Write your observations.
2. Take 10 ml of hard water in two test tubes. Add five drops of soap solution to one tube and 5 drops of detergent solution to another tube. Shake both the tubes for same period. Record your observations.
3. Define combination, displacement, double displacement and decomposition reactions giving an example of each.
4. Draw ray diagrams for the correction of myopia and hypermetropia.
5. A hypermetropic eye is corrected for near vision by using a lens of power $^8/_3$D. Calculate how far is near point of defective eye?

**Models / Projects (Any 2):**

1. Model of human heart
2. 3D human eye model
3. Working model of human lungs / kidneys
4. Electric motor

Note: Revise all the lesson already done class.

**Social Science:**

1. Prepare a questionnaire of minimum 25 marks each from the chapters covered. (make maximum possible questions and write on an A4 size sheet)
2. Take a thin notebook and make a 'historical calendar'. Note down the important dates of history from the topics covered so far. (use sticky notes to write date and event)
3. Project on disaster mgt. 'Role of the community and government to deal with natural disasters'.

**Art & Craft:**

1. Draw and colour any 2 still life with water colours in art life.
2. Draw and colour any 2 landscapes with water colours in art file.

**ICT:** Prepare a presentation on "Impact of learning through technology."

Or

"Rain water harvesting"