SUGHAR SINGH ACADEMY (SWARN JAYANTI VIHAR)
SUMMER VACATION HOLIDAY HOMEWORK (2024-25)
CLASS-IX

English	Do the Project on the topic - Reach for the Top – a. Santosh Yadav b. Maria Sharapova
Hindi	1- परियोजना कार्य (प्रोजेक्ट फाइल) तैयार करें। *पर्वतीय क्षेत्रों की सामाजिक, आर्थिक, भौगोलिक स्थिति। (ल्हासा की ओर पाठ के आधार पर) 2- कक्षा में कराए गए पाठों का पुनः अभ्यास करें।
Science	1- Prepare a project file on the topic "Malnutrition " or "Manures and fertilizers". 2- Prepare a project file on the topic of different types of chemical reactions and their uses based on daily life activities.
Social Studies	1) Write and learn about the Non Cooperation Movement, Civil Disobedience Movement and Quit India movement in detail. 2) Write and learn Fundamental Rights of Indian citizens. In detail. Both topics must be written in a transparent file.
Maths	Solve the given worksheet.
Computer	1. Computer project: Topic: ARTIFICIAL INTELLIGENCE The topic must contain the following points: a) Introduction to Artificial Intelligence b) Types of Artificial Intelligence. c) Purpose of Artificial Intelligence. d) The uses of Artificial Intelligence e) Advantage and disadvantage of Artificial Intelligence f) Applications of Artificial Intelligence.

Sughar Singh Academy (Swarn Jayanti Vihar)
Class-IX (Maths Worksheet)

1) Examine whether the following numbers are rational or irrational:-

i) $(\sqrt{2}+2)^2$ ii) $(5+\sqrt{5})(5-\sqrt{5})$ iii) $\frac{6}{2\sqrt{3}}$

2) Simplify the following sums:-

i) $\frac{7^{n+2}-3\times7^{n+1}}{20\times7^n-2\times7^n}$ ii) $\frac{16\times2^{n+1}-4\times2^n}{16\times2^{n+2}-2\times2^{n+2}}$

3) If $9^{x+2}=720+9^x$, *find the value of* $(4x)^{1/x}$

4) *If* $1176=2^a\times3^b\times7^c$, *find* a, b *and* c.

5) Simplify the following sums:

i) $\frac{\sqrt{5}+3}{\sqrt{5}-3}+\frac{\sqrt{5}-3}{\sqrt{5}+3}$ ii) $\frac{\sqrt{5}-2}{\sqrt{5}+2}-\frac{\sqrt{5}+2}{\sqrt{5}-2}$

6) *If* $(x+y)=12$ *and* $xy=32$, *find the value of* (x^2+y^2) =?

7) If $\left(x^2+\frac{1}{x^2}\right)=79$, find value of $\left(x+\frac{1}{x}\right)$ =?

8) If (a+b+c) =9 and (ab+bc+ca) = 23. Find value of $(a^2+b^2+c^2)$ =?

9) if $(x-y)=4$ and xy=21, find the value of(x^3-y^3) = ?

10) Factorize:-

(i) x^3-2x^2-x+2

(ii) x^3-3x^2-9x-5