

S. D. PUBLIC SCHOOL, PITAMPURA, DELHI

HOLIDAYS' HOMEWORK 2026-27

SUBJECT – MATHEMATICS

CLASS - VIII

PROJECT

Do the given work in a scrap file.

“Travel & Tourism Maths Project”

◆ **Task:**

Students will:

1. Find distance from Delhi to selected region
2. Estimate travel cost (flight/ship approx.)
3. Calculate:
 - Total cost for family trip
 - Percentage difference in cost
 - Compare area of regions

Example Task:

- Delhi → Andaman \approx 2500 km
- Cost per person = ₹10,000
- Family of 4 → Total = ?
- Compare with Sikkim trip cost

TASK 2: Tickle your brain, surf the net and do the following creatively:

a) Make an attractive Warli Art using mathematical concepts(Congruence of Triangles):

Present your work on an A3 size colored sheet. (Roll nos 1-25)

b) Try Maths Craft: Make an Icosahedron (can be made using coffee cups,colored paper,straw etc.) (Roll nos 25 onwards)

You can refer the following link:

<http://mathematicsprojects.blogspot.com/?m=1>

<https://www.youtube.com/watch?v=S1gQxElolF4>

ASSIGNMENT

Instructions

1. Attempt all questions neatly in a separate math holiday homework notebook.
2. Label units clearly and use a ruler for number lines and tables.

Unit 2- POWER PLAY

MCQs

1. $2^3 \times 2^4 =$
a) 2^7
b) 2^{12}
c) 4^7
d) 2^1

2. $(5^2)^3 =$
a) 5^5
b) 5^6
c) 10^6
d) 25^3

3. $10^0 =$
a) 0
b) 1
c) 10
d) Undefined

4. Which is greater?
a) 2^5
b) 5^2
c) Both equal
d) Cannot say

5. $3^4 =$
a) 12
b) 27
c) 81
d) 64

6. Assertion–Reasoning

1. Assertion (A): $a^m \times a^n = a^{m+n}$
Reason (R): Powers with same base are added when multiplied
2. Assertion (A): $a^0 = 0$
Reason (R): Any number raised to zero is zero
3. Assertion (A): $(2^3)^2 = 2^6$
Reason (R): When power is raised to power, exponents multiply

Case Study 1: Digital Storage Growth

A file doubles in size every day. On Day 1, its size is **2 MB**.

Questions:

1. What will be the size on Day 5?
2. Express your answer using **powers of 2**.
3. Why are exponents useful in such situations?

Case Study 2: Population Growth

A bacteria population triples every hour. Initially, there are **3 bacteria**.

Questions:

1. What will be the population after 4 hours?
2. Express using exponential form.
3. Compare 3^4 and 4^3 . Which is larger?

Critical Thinking

1. Simplify and explain: $2^5 \times 2^3 \div 2^4$
2. Why is $a^0 = 1$ (for $a \neq 0$)? Explain logically.
3. A student says: $(2^3)^2 = 2^5$
Is this correct? Justify.

Unit 1- A SQUARE & A CUBE**MCQs**

1. Square of 25 is:
 - a) 50
 - b) 625
 - c) 125
 - d) 75
2. Cube of 12 is:
 - a) 144
 - b) 1728
 - c) 1331
 - d) 216
3. Which is a perfect square?
 - a) 500
 - b) 625
 - c) 700
 - d) 450
4. Which is a perfect cube?
 - a) 1000
 - b) 900
 - c) 800
 - d) 600
5. Square root of 361 is:
 - a) 18
 - b) 19
 - c) 17
 - d) 21

Assertion–Reasoning

1. Assertion (A): 729 is a perfect square.
Reason (R): $27^2 = 729$
2. Assertion (A): 1728 is a perfect cube.
Reason (R): $12^3 = 1728$
3. Assertion (A): Every perfect square is also a perfect cube.
Reason (R): Squares and cubes are both powers of numbers

Case Study 1: Garden Design

A square garden has an area of **484 m²**.

Questions:

1. Find the **length of one side**.
2. Is 484 a perfect square? How do you know?
3. Suggest another square number close to 484.

Case Study 2: Storage Box

A cube-shaped box has volume **1728 cm³**.

Questions:

1. Find the side of the cube.
2. Is 1728 a perfect cube? Show how.
3. Write the prime factorization.

Critical Thinking

1. Can a number be both a perfect square and a perfect cube? Give an example.
2. Find the smallest number that must be multiplied by 50 to make it a perfect square.
3. Without calculating fully, explain whether 999 is a perfect cube.