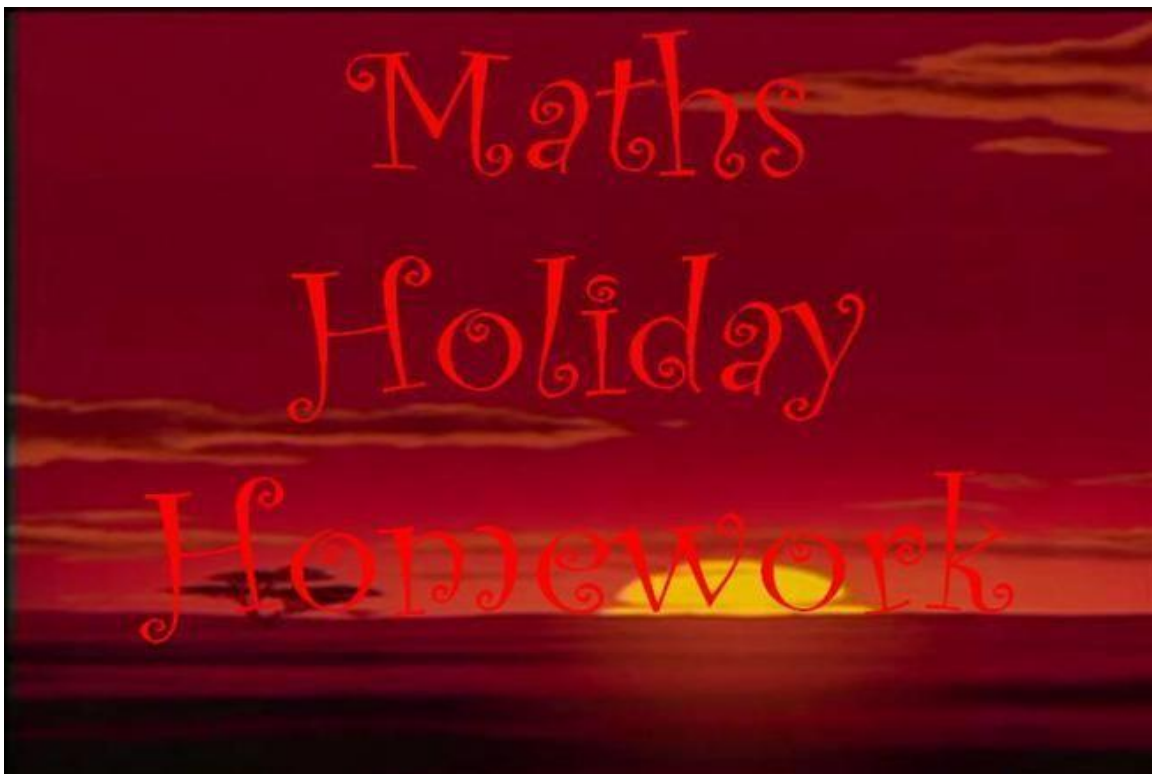


DELHI PUBLIC SCHOOL JAMMU
SESSION: 2021-2022

HOLIDAY HOMEWORK

CLASS: IX
SUBJECT: MATHEMATICS



A. ANSWER THE FOLLOWING QUESTIONS IN YOUR CLASSWORK NOTEBOOK:

1. Find the value of

$$\frac{(0.6)^0 - (0.1)^{-1}}{\left(\frac{3}{8}\right)^{-1} \left(\frac{3}{2}\right)^3 + \left(-\frac{1}{3}\right)^{-1}}$$

2. Let 'a' be a non-zero rational number and 'b' be an irrational number. Is 'ab' necessarily an irrational? Justify your answer with example
3. If $a + b + c = 5$ and $ab + bc + ca = 10$, Find $a^3 + b^3 + c^3 - 3abc$
4. Find the square root of $10 + \sqrt{24} + \sqrt{60} + \sqrt{40}$.
5. Find 'x', if $2^{x-7} \times 5^{x-4} = 1250$.
6. Factorise : $(m + 2n)^2 x^2 - 22x(m + 2n) + 72$.
7. If $a + b = 10$ & $ab = 16$, find $a^2 - ab + b^2$ and $a^2 + ab + b^2$.
8. If $a^2 + b^2 + c^2 = 250$ & $ab + bc + ca = 3$, find $a + b + c$.
9. If $p = 2 - a$, prove that $a^3 + 6ap - 8 = 0$
10. Find 'a' and 'b', if $x = 0$ and $x = -1$ are the zeroes of $p(x) = 2x^3 - 3x^2 + ab + b$.
11. What should be added to $x^3 + 3x^2 - 12x + 19$ so that the result is exactly divisible by $x^2 + x - 6$.
12. If $x + 1/x = 11$, find the value of: —
 - (i) $x^2 + 1/x^2$
 - (ii) $x^3 + 1/x^3$

B. PROJECT REPORT:



Make a report on History of pie, and also create your own pie puzzle.(any two)

NOTE:

1. Send your Holiday Homework by e-mail to your respective Subject Teacher by 13th of July, 2021. Your submission will carry 4 marks.
(2 marks- Subject Relevance & Research, 2 marks- Handwriting).
2. Practice for your Homework/ Project Presentation (5-6mins) to be held during virtual class after holidays. It will carry 6 marks.
(2 marks- Confidence, 2 marks- Subject Clarity, 2 marks- Presentation Skills).
3. The schedule for presentation will be shared later.
4. The teacher may ask 1 or 2 questions during the presentation

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