

MATH

1) sum of the values of x satisfying $\tan\left(\frac{\pi}{4} + x\right) + \tan\left(\frac{\pi}{4} - x\right) = 2$ in the interval $[0, 2\pi]$

$\rightarrow 4\pi, 3\pi, 7\pi, 6\pi$

2) If $\log_{10} 10 = 1, \log_{10} 100 = 2$. Then $\log_5 125 = ?$

$\rightarrow 5, 25, 1, 3$

3) The function given by $x^m y^n = (x+y)^{m+n}$ is:
 \rightarrow neither increasing nor decreasing; strictly decreasing; strictly increasing; constant.

4) How many terms are in the Arithmetic Progression $20, 25, 30, \dots, 135$
 140 ?

$\rightarrow 25, 26, 23, 24$

5) If $\log 2 + \log(x+3) - \log(3x-5) = \log 3$. The value of $x = ?$

$\rightarrow +3, -3, 5, -6$

6) If a, b, c are odd +ve integers, then no. of integral solutions of $a+b+c=13$ is

$\rightarrow 21, 14, 28, 56$

7) A man reads 10 reading cards. The next day his dog ate $\frac{1}{2}$ of them. How many cards

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 $\rightarrow 25, 26, 23, 24$

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7) Sakthak bought 7 new trading cards. The next day his dog ate $\frac{1}{2}$ of his collection. Now, only 31 cards are left. How many cards did he start with?
 $\rightarrow 62, 55, 35, 38$

8) A circle of max possible size is cut from a \square sheet. A \square of max possible size is cut from the resultant \circ . What is the final area of the final sq.?
 $\rightarrow 50\%$ of the size of the original sq.
 $\rightarrow 25\%$ of the size of the original circle.
 $\rightarrow 2x$ the size of the circle
 $\rightarrow 75\%$ of the " " " "

9) sum of odd integers 1 - 2001
 $(1021)^2, (1121)^2, (1101)^2, (1001)^2$

10) $\int_2^3 x^4 dx \rightarrow 2\sqrt{3}, 5, \frac{211}{5}, \frac{2}{5}$

11) If the side of a sq. is increased by 30%, its area increases by
 $\rightarrow 69\%, 30\%, 15\%, 56\%$

12) A is 2 years older than B who is twice as old as C.
 If the total ages of $A+B+C=27$, how old is B
 $\rightarrow 10, 6, 7, 5$

13) If $a^2 - b^2 = 8$ & $a*b = 2$, find $a^4 + b^4$
 $\rightarrow 64, 8, 4, 72$

14) Diff. eqn of all non vertical lines in a plane is -
 $\rightarrow \frac{dx}{dy} = 0, \frac{dy}{dx} = 0, \frac{dy}{dx} + x = 0, \frac{d^2y}{dx^2} = 0$

15) A salesman has 70% chance to sell a product to any